

Report
On
Coffs Coast Oyster Industry
Development Plan

Prepared For

Bellingen Shire Council
Nambucca Shire Council
Department Of State And Regional Development
NSW Fisheries and
Bellinger-Kalang-Nambucca Oyster Growers Group

By

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Foreword and Disclaimer

This report has been prepared for Bellinger Shire Council, Nambucca Shire, NSW Department of State and Regional Development, NSW Fisheries and the Bellinger-Kalang-Nambucca Oyster Growers Group.

The report was based on information gathered from primary desk research, published reports and by means of interviews with persons believed to be reputable and reliable.

I believe the report to be accurate but it contains evaluations of future events and readers should make their own inquiries to satisfy themselves on all matters.

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Executive Summary

The production, quality assurance and marketing of Sydney Rock oysters grown in the Bellinger and Nambucca River were examined. The viability of a new centralised processing and marketing facility to service the depuration, size and quality grading and marketing needs of a group of nine growers in the Coffs Coast region (the “Study Group”) were then assessed.

The Nambucca and Bellinger oyster industry is characterised by the production of single seed oysters from cylinders and trays. Total production is modest at about 1 to 2% of the state’s output but production per hectare, the average size and unit value of the oyster are all higher than the average across the state. The Nambucca River oyster is particularly well regarded by many processors, retailers, restaurateurs and consumers.

In 2001/02 the farmers derived an aggregate revenue of approximately \$1.2 million from the oyster harvest from the two rivers. The output of oysters from both estuaries can be increased several fold and it is forecasted to double over the next five years.

The quality assurance (QA) activities of the Study Group meet the Safe Food Production NSW’s food safety requirements but they should be expanded to encompass, and improve, product quality attributes such as oyster appearance and meat size.

The Sydney rock industry, unlike the Pacific oyster industries in Tasmania and South Australia has no industry agreed size or product quality grading schemes in operation. This situation has benefited the market development of the Pacific oyster throughout Australia and proven to be a major market impediment for the Sydney rock growers.

Some processors take advantage of growers with limited market information and/or financial resources and the lack of uniform size and quality grades on Sydney rock oysters to hold down prices and to delay payment.

Per capita consumption of oysters in Australia has increased by about 4% over the past decade as a result of a strong growth in the output of Pacific oysters from Tasmania and South Australia a static supply of Sydney rock oyster.

The demand for Sydney rock oyster, particularly for high quality product, is strong and often unmet by supply. The bottle size grade has recorded a doubling in supply and a 59% increase in price over the past six years; a truly remarkable achievement for a product some growers speak of disparagingly.

This and other findings suggest that the economic malaise common in the rock oyster growing industry is due more to a decline in consumer perception of the appearance/quality and value of Sydney rock oyster vis a vis Pacific oysters rather than the downward shift from plate to bottle size grade for Sydney rock oysters.

Some oyster processors, retailers and restaurateurs rate the Sydney rock oyster as the best species. There are consumers who may be termed Sydney rock oyster connoisseurs who are willing to pay remarkably high prices for freshly shucked plate size grade

oysters in fine dining establishments. But the majority of consumers are not fastidious as to species and have a modest budget.

Our analysis of the costs of establishing and operating a central depurating, processing and marketing company, with an electronic size grading machine, indicates that it would require a throughput of about 5,000 bags per annum to be viable.

A facility with start-up capital investment of \$454,000 and fixed operating costs of \$151,000 would not break even until year five and would need to charge members \$1.27 per dozen at a throughput of 1500 bags per year (the Study Group's current output) to break even on its operating costs. A breakeven handling charge of this magnitude would be intolerable at current oyster prices averaging less than \$5 per dozen.

At a throughput level of 5000 bags per annum the operating costs/or breakeven charge to members falls to an attractive 39 cents per dozen. Any grower interested in working collectively with others would need to examine the financial forecasts herein in the light of their individual costs, financial and human resources and their propensity for risk taking to decide if a collaborative facility is better than their existing operation.

We believe it would be premature for the Study Group to initiate establishment of a central processing and marketing facility given the group's small production volume and the members' differing needs, objectives and commitment to such a project.

While the commitment and production volume are inadequate for a processing-marketing facility at this time we see merit in the Study Group proceeding in stages to develop a collaborative marketing group to meet common marketing objectives.

We suggest that the Study Group start with the establishment of a single desk group operation selling oysters to the growers' existing customers, progress to a marketing business servicing an enlarged customer base and at a later date re-examine the feasibility of establishing a central processing-marketing facility.

We recommend a four point development strategy for the Study Group which can be implemented over three years or so:

- 1 Development of product specifications defining oyster size and quality grades
- 2 Upgrade product quality and QA across all size grades
- 3 Promote and strengthen the group business: first with existing customers and products and later with new customers or markets if appropriate
- 4 Annual business analysis: Individual growers analyse their business and feasibility of investing on farm to improve output and economies of scale The Group reviews its business annually and plans ahead; drops "bad" customers and seeks new ones as demand increases to strengthen prices.

The development focus is on increasing profitability from existing products and customers because we do not see that exports or highly processed products offer better profits while there is unsatisfied domestic demand for Sydney rock oysters. An improvement in product quality could potentially lead to a doubling of profit margins

and a doubling of demand and supply over a period of about five years thereby raising aggregate industry profit as much as four fold.

1. INTRODUCTION

The Sydney rock oyster is grown in the Nambucca and Bellinger River estuaries by 11 farmers in what is known as the Coffs Coast region of northern NSW (Coffs Harbour, Bellingen and Nambucca Shire Councils).

Seafood wholesaling and exporting organisations as well as many restaurants are also located in the Coffs Coast region, in particular at Coffs Harbour. The region is situated midway between Sydney and Brisbane. The oyster trade benefits from a good transport infrastructure and its convenient location to these capitals, major inland centres such as Armidale and Tamworth and interstate destinations.

The oyster industry has active leases in the Nambucca, and the Bellinger rivers (including the Kalang River) and the growers also have shore depots where grading, depuration and packing activities are undertaken as needed.

The Coffs Coast is responsible for about 1-2% of the states Sydney rock oyster production worth about \$1 million per annum to the growers. The Nambucca estuary is particularly well regarded by many oyster distributors, restaurateurs and consumers and the region has the capacity to raise production levels several fold.

However, the growers and government recognise that there are a number of impediments to expanding production levels. The Coffs Coast Oyster Industry Development project was initiated to review the industry and produce a Coffs Coast Oyster Industry Development Plan to help improve growers' profitability. This project was an initiative of the Bellingen and Nambucca Shire Councils' Economic Development Plans and was funded by the two shires, the Department of State and Regional Development, NSW Fisheries and the region's Oyster Growing Group.

A project Steering Committee, with membership from these organisations, identified the following impediments to industry growth :

- Need for a clean waters classification to allow export sales
- Need for consistent grading of product
- Lack of market power of individual growers
- New Safe Food Production NSW regulations requiring growers to upgrade facilities
- Possible need for centralised processing facility to increase efficiency and QA standards
- Lack of branding and market development
- Payment terms and punctuality from buyers lead to unreasonable working capital requirements and cash flow issues.

1.1 Terms Of Reference

The project therefore had five key components to be addressed in the project report:

- Industry audit of current and potential production.
- Assess the viability of establishing a centralised depuration, grading, packing and marketing facility and identify an appropriate business structure.
- Document industry Best Practice quality assurance schemes to satisfy domestic and export market requirements
- Market assessment of existing and potential domestic and export markets; consideration to be given to consumer preferences, market segmentation and opportunities for branding, niche and group marketing.
- Recommend a preferred option for industry development with a detailed implementation plan,

The Department of State and Regional Development and NSW Fisheries wanted the findings from this project to be available for use by other oyster growers in the state and so the project report has been presented in a manner to facilitate this.

In this report the term “Group” refers to any group of growers who are interested in working collaboratively in the processing and/or marketing of oysters. The term “Study Group” refers specifically to the growers in the Nambucca and Bellinger estuaries who expressed an interest in the concept of a centralised processing and marketing facility and participated in this study.

1.2 Methodology

The project commenced with a field visit and a workshop with interested growers to view the existing lease and depot facilities and to gain an understanding of industry practices and the growers' commitment to the project.

Information on the growing, depuration and marketing of oysters from the Nambucca and Bellinger estuaries was obtained through personal interviews and confidential data submitted by nine growers who constituted the Study Group. Another two growers in these estuaries were also consulted as to their interest in the concept of a central processing-marketing facility but were not sufficiently interested to participate further with the project.

Information for the market assessment, financial analyses and business viability were gathered by personal discussion (face to face and by telephone) with growers, marketers, restaurateurs, research, development and inspection officers and other parties around Australia and overseas. This was supplemented with desk research of the literature and information gathered from web resources.

Every effort was made to obtain quantitative market data as well as qualitative information but the oyster processing industry is relatively small and very competitive and so only information that interviewees were prepared to make available for public release has been documented.

The statutory food safety and quality assurance requirements were ascertained from Safe Food Production NSW and the Australian Quarantine Inspection Service officers and from published materials.

2. COFFS COAST INDUSTRY STRUCTURE

There are 12 business entities with an Aquaculture Permit for farming oysters in the Nambucca River. These entities hold from one to ten leases each, covering from 0.016 ha to 7.03 hectare (ha); the total area of each entity ranges from 0.63 ha to 14.854 ha. The total area of the oyster leases in Nambucca River in September 2002 was thus 67.412 ha.

The Bellinger-Kalang estuary has five business entities with an Aquaculture Permit for farming oysters, one of which also has multiple leases in the Nambucca River. These five entities hold from five to 22 leases each with the individual leases covering from 0.0709 to 2.442 hectares. The total leased area for the individual entity range from 2.6601 to 11.6867 ha. The total area of oyster leases in the Bellinger-Kalang estuary in September 2002 was 28.7483 ha.

The six oyster farming entities operating in the Nambucca River and participating in this study (the Study Group) hold approximately 46 ha or 66% of the estuary's total lease area of 67 ha. The four oyster farming entities operating in the Bellinger River estuary and participating in this study hold approximately 26 ha or 91 % of the estuary's 28 ha leased area.

The Nambucca and Bellinger River farmers typically grow single seed oysters in cylinders which are then on-grown and fattened on trays suspended under rafts. Plate and bistro size grade oyster are the primary products with a small percentage of bottle grade oysters as a secondary product. This methodology of cylinder and raft culture of single seed oyster has contributed to the fine reputation gained by Nambucca River oysters.

In addition to the floating cylinders and rafts, all Study Group farmers have land based depots near one of their leases where they store equipment, undertake regular maintenance work and grade/cull oysters prior to sale. Six of the nine farmers also have at least one fully enclosed building holding an oyster depuration plant with a capacity ranging from two to 40 bags per batch.

Most of the Study Group growers have Sydney, interstate and local processors—in that order of importance—as their major customers and do not sell direct to the public. Two growers only sell at farm gate and one of these relies exclusively on this marketing option. Two of the nine rely on local, intrastate and interstate restaurant sales for the majority of their output. Only one grower undertakes opening of oysters, almost all of the Study Groups' output is sold as live oysters.

Employment on oyster farms consists of a full time core team usually headed up by one of the owners as well as a number of casual staff as much of the work is seasonal. Full time staff numbers are limited and range from one to three persons per Permit Holder with as many as four part time persons being employed for about half of the year. Employment numbers are discussed in Section 2.2.

2.1 Study Group Productivity

The Group has a total of 72 ha of leases or 82% of the total leased area in the Nambucca and Bellinger estuaries combined. In 2000/01 the aggregate oyster production from the Study Group's farms produced approximately 930 bags representing 59% of the total output from the two estuaries, valued at about \$800,000 at the farm gate. This represented 1.2% of the states total production. The 2001/02 production was valued at approximately \$1.2 million.

Table 2.1. Oyster production in Nambucca and Bellinger-Kalang estuaries.

	Study Group production	Nambucca + Bellinger estuaries	All NSW estuaries
2001/02 Total no of bags all grades Percentage composition Plate Bistro Bottle Cocktail	1355 bags 54% 35% 11% <1% av 107 doz/bag	Not available	Not available
2000/01 Total no. of bags all grades Percentage composition Plate Bistro Bottle	930 approx. 61% 30% 9%	1577 44% 39% 16%	68782 28% 28% 43%

The Study Group is far more productive than the state as a whole in terms of total output as well as average size of oysters sold. Of the nine permit holders 56% had production exceeding 50 bags for 2000/01, 33% had production in the 1-50 bag range while only one farmer (or 11%) of the nine reported a nil production; this is far better than the statewide situation with average figures of 44, 23 and 25 percent respectively for 2000-01.

The above table above shows that the Study Group produces a higher percentage of the more valuable plate size and a lower percentage of the smaller bottle grade than the two estuary's overall and the Groups output is of an even higher size grade than the state's average.

Five of the nine entities however reported that the oyster growing business does not give a satisfactory return on their capital investment and labour input; four of these entities were in the 50+ per annum category of producers while one was in the 1-50 bag category. Another two growers were uncertain about the profitability of their oyster growing business. Three of the five "non-profitable" growers and one of the

“uncertain” are not involved full time on their oyster business because they also have other business interests they attend to.

The Study Group’s output ranged from 2.4 to 34 bags per hectare in 2001/2 with an average of 19 bags per ha. This is almost the same as the long term average of 20 bags per ha for all NSW estuaries as reported by White 2001. White’s report shows that there is considerable year to year variation in yield for any particular estuary and particularly so for the Nambucca and Bellinger rivers. In 2000/01 the Study Groups average yield was 13 bags per hectare. This year to year variability is an outcome of the relatively small aggregate production from these estuaries coupled with the rainfall variability of northern NSW.

The Nambucca River has shown a declining trend in production over the second half of the last decade while the Bellinger production has shown an increasing trend (Table below). According to farmers these trends reflect the changes in the farmers activity in the particular river rather than any significant changes in the individual river’s productivity.

Table 2.2. Sydney rock oyster production (‘000 dozens) and average farm gate price for a dozen plate oysters.

	Nambucca	Bellinger	N + Bellinger	NSW	NSW average plate oyster \$/doz
2000/01	113.3	56.8	170.1	7864	5.30
1999/00	128.8	54.6	183.4	7899	4.95
1994/95	238.4	29.4	267.9	9067	3.90

The body of public information and confidential returns provided by growers to NSW Fisheries indicate that the Nambucca River and the Bellinger River are both good growing estuaries with no major problems and that the Group’s farms are more productive than the state’s average in terms of volume and the quality of production.

2.2 Potential Production And Employment

Current levels of production from the nine growers in the Study Group are about 1140 bags per annum (average of the past two years). This was produced with the equivalent of 19 full time (EFT), paid personnel including seven of the proprietors.

The majority of employment consists of part time or casual labour with proprietors second most important and other full time employees as the smallest labour component.

The total of the production forecasts of the nine growers was for 2640 bags in five years time. This represents an increase of about 130% over the next five years and contrasts greatly with the results of the past five years from the Nambucca-Bellinger area.

This 2640 bag figure is approximately double the output of 2001/02 and so it is not an entirely unrealistic target. However given that the 2002/3 output so far is not particularly good and that several growers identified lack of capital and experienced staff at affordable prices as major constraints to the growth of their business it is unlikely that production levels in five years would exceed 2000 bags.

Such an increase in production level would however lead to a substantial increase in revenue and employment in the district. Farmers aggregate income from oysters would probably exceed \$3 million per annum at current sales values.

The employment forecasts offered by growers indicated that an increase in production to 2640 bags in five years would lead to a 100% increase in employment on farm to 38 EFT personnel. This too would consist of a majority component of part time/casual employees.

3. FOOD SAFETY AND QUALITY ASSURANCE

Oysters are widely regarded as a relatively high risk food as they are commonly eaten without cooking. Thus food or health authorities in Australian states and elsewhere have developed a body of regulations governing the growing, processing and marketing of oysters.

Oysters intended for export from Australia must also meet the requirements of the Australian Quarantine Inspection Service (AQIS) and the importing country.

Some Australian farmers and oyster processors have also implemented various quality assurance programs audited by third party companies in addition to the food safety focussed quality assurance programs required by government agencies. Thus some South Australian oyster farmers have implemented a SQF 2000 Quality Assurance (QA) program, this and other voluntary QA programs are discussed further at the end of this chapter.

The legislated requirements for the growing, harvesting and transport of oysters for consumption in NSW are set out in the New South Wales Shellfish Program (NSW SP) Operations Manual which has been prepared by Safe Food Production NSW (available free from its web site at www.safefood.nsw.gov.au).

In general, the Safe Food regulations prescribe that oysters should be grown in clean water, depurated after harvest to further reduce any health risk associated with microorganisms, and are transported and processed in a manner which minimises microbial contamination.

Prior to 14 December 2001 the NSW oyster industry was governed by the Shellfish Quality Assurance Program whereby depuration was mandatory. Safe Food Production NSW is currently undertaking sanitary surveys to classify waters used for oyster growing in a manner consistent with the Australian Shellfish Quality Assurance Program. Under this scheme oysters from classified “clean waters” will not need to be depurated for domestic or export markets.

The growing, harvesting and depuration of oysters are now overseen by the NSW SP which reports to Safe Food Production NSW. But each area or group of areas on an estuary where the NSW SP operates has a local shellfish committee appointed by Safe Food Production NSW to administer the local shellfish program, communicate with NSW SP and all persons harvesting oysters in the area.

A Local Shellfish Program Coordinator is nominated and this person is responsible for managing the day-to-day operations of the local program. These include the collecting of harvest water and oyster meat samples for testing. Oysters can only be harvested from waters deemed to be open for harvest by NSW SP.

Unless the harvest area is classified by Safe Food Production NSW as “Approved” or “Conditionally Approved”, oysters must undergo a depuration process so the oysters meet the national microbiological standards. Samples of both the depuration water and

oyster meat must be tested in accordance with *Code of Practice for Depuration of Oysters in NSW* (Safe Food Production NSW, 2000).

The Nambucca and Bellingen harvest areas have not yet been classified by Safe Food Production NSW, so the harvest of oysters for human consumption is conducted under the auspices of the “old” Shellfish Quality Assurance Program (SQAP) and depuration remains compulsory. For these areas, the current Local Estuary SQAP (Determination) serves as an interim Management Plan for the harvest zone in these estuaries.

It is possible that after these areas have been classified by Safe Food Production NSW, depuration may not be necessary.

With the new Shellfish Program oyster farmers in NSW must develop and implement a food safety program to manage the growing, harvesting, transport, depuration and transportation of oysters. This program will be audited by Safe Food Production NSW at least once each year.

3.1 Mandatory Food Safety And QA

The activities that are to be managed in an approved food safety program under the NSW Shellfish Program follow :

1. Oyster farming

Oysters can only be cultured for sale in areas leased from NSW Fisheries and for the unclassified areas such as the Nambucca and Bellinger estuaries according to the standards of the SQAP. That is, oysters must be grown in a SQAP monitored harvest zone for a minimum of 60 days prior to harvest.

Furthermore, at all times oysters should only be grown in areas where there is no risk of them becoming contaminated from agricultural chemicals and heavy metals.

2. Oyster harvest.

Oysters can only be harvested from waters that are deemed to be open for harvest by the SQAP. Growers must be members of the Local Shellfish Quality Assurance Program (LSQAP) and participate in the collection of water and meat samples as requested by the LSQAP committee. Oyster farmers must comply with instructions from the LSQAP regarding closures and harvesting.

Transport

Live Sydney rock oysters must be transported to the depuration plant at a temperature of less than 25°C. (For Pacific Oysters and native oysters at less than 12°C). Some farmers may therefore need to insulate or refrigerate their vehicles to meet these new transport temperature standards.

Depuration

Oysters grown and harvested in NSW must undergo depuration unless the oysters are harvested from Approved or Conditionally Approved areas. A depuration facility must be constructed according to the requirements of the *Code of Practice for Depuration of Oysters in NSW* (Safe Food Production NSW, 2000), as well as the Food Standards Australia and New Zealand's *Food Standards Code 3.2.3* (available from the web site www.foodstandards.gov.au/foodstandardscode). Oysters that are washed prior to depuration must be washed in either harvest water or water as microbiologically safe as the harvest water.

Oysters must be depurated in accordance with *the Code of Practice for Depuration of Oysters in NSW* . The manager of the depuration plant must ensure that the tanks are well maintained and associated equipment clean and in full working order before use. The Ultraviolet (UV) light source must be clean and capable of delivering the required amount of UV light to sterilise the depuration water. Only water deemed suitable by the LSQAP can be used in the depuration tanks. Salinity and temperature should be adjusted to minimise the chance of the oysters spawning during depuration. The manager of the depuration plant must keep full records of each depuration process in

accordance with the *Code of Practice for Depuration*. Depuration records must be available for audit by Safe Food Production NSW.

Labeling of depurated oysters.

In accordance with the *Code of Practice for Depuration of Oysters in NSW* depurated oysters must be placed into clean containers (cardboard boxes or sacks) and completely and correctly labeled before leaving the depuration plant.

Storage of depurated oysters.

Depurated oysters must be stored and transported in a manner that ensures that the temperature of Sydney Rock oysters is less than 25°C for the first 72 hours after depuration; after this, storage temperature is not to exceed 12°C. Pacific oysters and native oysters must be stored and transported at less than 12°C immediately after depuration. The new requirements on storage temperatures after depuration suggests that some depuration plants may need to be insulated and/or air conditioned.

Transport.

Depurated oysters must be transported in vehicles that can ensure that the oysters are not exposed to dust and dirt and that the temperature of the oysters does not exceed the requirements for the particular species. Individual growers in the Nambucca and Bellinger are in the process of completing their Food Safety Program to meet Safe Food Production NSW requirements.

Processing Facilities.

Processing facilities for oyster shucking and water used must comply with the Food Standards Australia and New Zealand's *Food Standards Code 3.2.2* and *3.2.3* (available at www.foodstandards.gov.au).

3.11. Export Requirements

Oysters grown in NSW can be exported if the packing facilities and growing water quality meet the requirements of the Australian Quarantine Inspection Services (AQIS) and the importing country. The packing premises must meet the building and fixtures standards as set out by Food Standards Australia and New Zealand's *Food Standards Code 3.2.2* and *3.2.3* and be registered with AQIS for depuration and packing of oysters.

Many importing countries require that the water in which the oysters are grown meet strict sanitary standards. AQIS therefore conducts an audit to ensure that the water quality meets the requirements of the particular importing country before it issues the documents needed for export. Exports of Sydney rock oysters are currently limited to China, Hong Kong and a few smaller markets because only part of the Hawkesbury River and Port Stephens has classification wanted by most countries.

Currently exporters of NSW grown oysters must test the growing waters and the oyster flesh for microbiological status and the flesh must also meet the standards for domoic acid content (derived from harmful algae). Safe Food Production NSW is in the process of classifying the state's growing and harvest areas and the completion of this classification is expected to open up new markets and reduce testing and administrative costs for exporters. The Nambucca and Bellinger River are unlikely to have the

“Approved” waters classification until 2004.

3.12. Government Charges

Safe Food Production NSW

Oyster farmers must register with Safe Food Production NSW for which a once-only fee of \$50 is charged for current oyster farmers. Safe Food Production NSW also sets a general levy, charged on an annual basis, on all seafood businesses; this has been estimated to be about \$220 for oyster farmers. Further to this levy there is a Shellfish levy, used to operate the NSW Shellfish Program.

In addition individual farmers have costs associated with the running of their Local Shellfish Program Committee. These costs can vary considerably between groups and fees can range from \$0 to \$700. To these costs are added the costs of the testing of oysters that are depurated by the farmer, as tests must be conducted for every 30 bags of oysters depurated or every four weeks of operation. Costs for microbiological tests can vary between \$22 - \$42 per sample, and both depuration water and oyster meat must be tested.

There is no charge for the NSW Shellfish Program Operations Manual which has been prepared by Safe Food Production NSW, which is available free on the internet. Safe Food Production NSW will train the oyster farmer and further assist with the writing of individual food safety programs for no charge. The initial audit is conducted by Safe Food Production NSW for no charge, but a charge of \$120 per hour is levied for future audits.

The first charged-audits are expected sometime in mid-2003. An average audit has been estimated by Safe Food Production NSW to require about 30 minutes of charged audit time; audit travel costs are not charged.

AQIS Charges

The annual registration for a packer of oysters is \$930 per annum (which currently includes a charge of \$600 pa to register the depuration facility). Oysters are classified by AQIS as a *High Risk* food and oyster packing premises are subject to an AQIS inspection every two months if they have a B classification (the most likely classification). This is charged at a fee of \$39.60 per half hour and usually requires about 2-3 hours and thereby attracts a charge of \$158.40 to \$237.60 for each inspection.

Each consignment of oysters requires a *Statement For Consumption Raw* after all various tests have been passed and a *Certificate As To Condition*. This costs \$25. An Export Clearance Declaration must also be obtained and this costs \$100 for each consignment. Thus each shipment of oysters incurs a direct cost of \$125 regardless of volume exported in addition to the costs of microbiological and chemical testing.

3.2 Best Practice Quality Assurance

The quality assurance activities of the NSW oyster industry have been preoccupied with food safety issues, principally because of the need to overcome a series of substantial public health problems arising since the 1970s. The industry has at various times discussed the issue of product quality description and the need for uniform size categories and quality grading but so far it has mostly expended its limited resources on overcoming government and consumer concerns about food safety.

While oyster growers are now conversant with QA as it relates to water quality and product safety, the shell shape and encrustations, meat content and colour and other oyster quality characteristics — which are all critical to market success — have largely been ignored.

The traditional Sydney rock oyster size grades of plate size, bistro, bottle and cocktail oysters are not clearly defined nor used widely in a diligent or consistent manner by growers or processors. Processors and retailers prefer to use equally unclear terms such as select, specials and large. This absence of a widely accepted size grade description is arguably one of the major impediments to trade and market development for the Sydney rock oyster industry.

Debate between buyer and seller over size grading and the value of the product are commonplace especially when a price rise is imminent or new in the marketplace.

Ironically, the industry's preoccupation with grading by shell length or gross weight ignores the fact that consumers judge oysters by eye according to the meat size and colour.

The absence of agreed industry standards and practices has therefore constrained consumer and trade confidence in the Sydney rock oyster and facilitated the market penetration of Pacific oyster from Tasmania, South Australia and New Zealand.

The widespread adoption of uniform product size grade specifications and quality assessment by the Tasmanian Pacific oyster industry enabled it to quickly build up its market share on the mainland in the early 1990s. The South Australian Pacific oyster industry followed the Tasmanian example in the late 1990s and it too now has a strong market share based on well defined product size grades.

Quality assurance is all about giving customers and consumers an assurance or confidence that they will get what they ask for every time, ie a safe food of uniform quality from one purchase to the next. Food safety must be the foundation of QA in foods but “Best Practice” QA requires consideration of the key quality characteristics that make the food desirable to consumers.

Leading businesses also take account of the service they provide to customers, as well as the quality of their products, in the development of a QA program. Furthermore, to be credible a good QA program needs to be documented and preferably audited by a third party independent of the producer/seller and the buyer.

The overall appearance of the oyster as well as the volume and colour of the meat are key quality or condition parameters for oysters. The majority of trade buyers of Sydney

rock oysters interviewed reported that the quality or condition of Sydney rock oysters was highly variable and often unpredictable and that they commonly have difficulty getting the quality they desired. They contrasted this with Pacific oysters from Tasmania or South Australia which they reported as far more reliable and satisfying.

Best practice QA for an oyster grower should therefore start with the development of a set of product specifications which define the size grades and the product quality parameters that the farmer offers, monitors and records. According to our research, the quality parameters should include shell shape and cleanliness/encrustation, colour of the meat and shell, the meat to shell ratio and meat weight.

The QA program should also make some statement as to the company's or group's commitment to service as well as food quality and safety because delivery reliability is important to most buyers.

A comprehensive or Best Practice QA program should be HACCP based (Hazards Analysis Critical Point — the food safety system or tool that is mandated in almost all major seafood trading nations including Australia). It should document how the oyster is grown, harvested, processed, packed, labelled and delivered. The mandatory NSW Shellfish Program or SQAP activities can easily be “inserted” into the comprehensive QA program manual.

Such a comprehensive QA system is non-existent in the Australian oyster industry because the industry and government agencies have concentrated on the quality of the growing waters and the transport of live shellfish and third party audited systems are widely perceived as costly to implement and maintain. But several Tasmanian growers started one this year (O'Sullivan 2002). Several oyster processors however have a third party audited QA system for their oyster shucking and marketing activities.

A group of NSW oyster growers in the Clyde River, working together as a regional marketing (Clyde River Oyster Marketing Company), has implemented a size grading system with seven defined gross weight categories (see table next page) and a simple quality grading scheme where the oyster quality/condition is visually assessed as satisfactory or unacceptable by sampling a few oysters prior to sale. This simple quality assurance program is not fully documented nor audited.

TASEA, the Tasmanian company which undertakes the marketing function for many shellfish growers in Tasmania, has six defined length categories (see table) and developed a three class quality assessment scheme using a condition index as part of the company's unaudited QA program (O'Sullivan 2002).

OYSA, a South Australian public unlisted company which sells Pacific oysters from about half of the growers in that state, has a five shell size grading scheme (see box) and a company quality assurance program. Both the TASEA and OYSA quality assurance programs are underpinned by the respective state shellfish quality assurance program and both companies employ a person part time to monitor the farmers quality assessments.

Many South Australian oyster growers also have a documented third party audited Quality Assurance program which covers the post harvest handling and transport of oysters, but not quality or size grading parameters.

Table 3.1 Australian oyster size grading schemes

Clyde River Marketing Company Size grading scheme for stick oysters

Size code	Gross Weight (gm)	Dozen per carton
Pink	55+	<44
Orange	47-50	47
Yellow	43-46	52
Green	38-42	57
Blue	38-39	63
Black	30-34	70
Small Black	<30	80

TASEA oyster sizes (information from www.tasea.com.au)

Size	Upper Shell (mm)	Bag (Doz)	Box (Doz)
Bistro	50-60	40	25
Buffet	60-70	30	18
Standard	70-85	25	15
Large	85-100	20	12
Jumbo	100-120	15	10
Super Jumbo	120-150	7	7

OYSA oyster size (information from www.oysa.com.au)

Bistro	50 - 60 mm	45 doz/bag
Plate	60 - 70 mm	30 doz/bag
Standard	70 - 85 mm	25 doz/bag
Large	85 -100 mm	20 doz/bag
Jumbo	100 mm +	15 doz/bag

In France the National Committee of Shellfish Producers manages the size and quality classification for oysters and there is also a group of oyster farmers in Marennes Olerone which markets a quality guaranteed oyster bearing the famous French food quality label **Label Rouge** which is independently audited (Monford 1999).

There is clearly an opportunity for a group of NSW oyster growers, such as the Study Group, to implement a third party audited comprehensive HACCP based QA program covering food safety issues, oyster quality and size grading and company service and thereby establish a new benchmark or Best Practice for Australian oyster growers.

Such an initiative should give the proponents a marketing advantage but it may not necessarily lead to higher prices for its products in the short term. A comprehensive QA program would probably be of more immediate value in tackling new export markets.

This type of comprehensive QA will probably become more important as oysters processed with the new high pressure opening technology which are reputedly ultra safe become more common-place in Australia and elsewhere.

The greatest challenge involved in establishing such a comprehensive QA program is gaining participants' agreement on which quality parameters should be included and the tolerances for the specified parameters. For example, how many size grades are desirable : the traditional four or the Clyde River Marketing Company's seven ? What standard or tolerance for non conformance should be allowed for each key parameter?

These product specifications and standards should be based on a comprehensive review of market demands (buyers and consumers) and the growers capability to service these demands. We have drafted a preliminary list for consideration at this time in Table 3.2.

Individual labelling of oysters has been seen as a desirable marketing and food safety tool but not yet achievable in a cost effective manner; nevertheless this issue warrants regular monitoring by anyone interested in best practice and is included in this table.

Ideally, these specifications and standards would be good enough to attract the support of the majority of growers around the state so that the entire Sydney rock oyster industry can adopt a uniform set of product specifications and reliable product grading system to strengthen its market. We have therefore recommended a pilot R & D project to achieve this (Section 8).

Table 3.2. Issues suggested for consideration in developing a comprehensive QA program

QA element or parameters	Consideration/Tolerances
Growing, harvest	As per SQAP, FSANZ etc
Washing/ Encrustation	How clean of mud, algae and fouling organisms are the oysters
Size grading	Shell size dimensions/weight ? Number of size grades Sample size and procedures; tolerances for non conformances
Quality grading	Which parameters ? Sample size and procedures Shell shape / geometry/plate appearance Inside shell colour /appearance Meat colour; Gill colour/chlorophyll lines Absence worms, mud blisters and smell inside the shell Condition ? Water retention volume ? Meat volume, weight or meat to shell weight or volume ?
Packing	Standard; Innovative; to customers specifications ?
Labelling	Complete labelling as per SQAP & FSANZ regs. Full customer and batch traceback ? Individual labelling ?
Transport	Insulated/Refrigerated for live Refrigerated for shucked or otherwise processed
Guarantees	Shelf life at nominated temperatures. Fully satisfied or money back no questions asked ?
Service	Product available x days x months weather permitting? Service available 7/11, seven days a week ?

4. MARKET ASSESSMENT

The Australian oyster trade consists of two major species or product lines: Sydney rock oyster and Pacific oyster. Sales of the flat oyster, the tropical black lip oyster and milky oyster are negligible for the purposes of this study. The market for Sydney rock and Pacific oyster are dominated by raw oysters: chilled half shell, live whole and frozen half shell and the Pacific oyster trade is dominated by Tasmanian and South Australian produce because Port Stephens output is significantly lower.

Sales of highly processed oysters such as frozen oysters Kilpatrick are still of such small volumes —perhaps negligible — that data are unavailable. Canned oysters and oyster sauces are not produced in Australia and are not dealt with in this study.

4.1 Supply And Consumption

The Australian fisheries and aquaculture statistics published each year by the Australian Bureau of Agricultural and Resource Economics and the various state aquaculture/fisheries agencies (Table below) indicate that:

- Aggregate oyster production of all species in Australia has been growing gradually over the past decade
- Imports of oysters have also increased
- Exports too have increased over the period.

Table 4.1 Oyster production and consumption in Australia (in tonnes).

Year	1991/ 92	1992 /93	1993 /94	1994 /95	1995 /96	1996 /97	1997 /98	1998 /99	1999 /00	2000/ 01
Prodn.	8202	8561	8707	9426	10061 1	10743	9278	10731	12046	12634
Exports	13	34	47	56	19	22	42	73	152	246
NZ Imports	347	388	479	527	522	470	509	597	612	565
Aust. Consum'n	8536	8915	9139	9897	10564	11191	9745	11255	12506	12,953

Furthermore statistics gathered by the state aquaculture agencies (next page) indicate :

- NSW output over the past twenty years has declined because of declining production levels for the Sydney rock oyster
- Queensland production of oysters (predominantly Sydney rock oyster) has grown over the past decade
- Tasmanian production of Pacific oysters has been growing steadily
- South Australian production of Pacific oyster has also grown over the past decade.

The ABARE statistics indicate annual imports of about 400-600 tonnes of oysters from New Zealand (Table 4.1 above) ; imports of raw oysters from other countries are negligible.

Thus using the ABARE aggregate oyster production, import and export statistics—essentially whole shell weight—and Australian Bureau of Statistics population data for Australia we have calculated that per capita oyster consumption (in shell weight) rose from 492 to 676 gram per person from 1991/92 to 2000/01; principally because of a static output of Sydney rock oyster and the increased tonnage of the much heavier Pacific oysters.

An analysis of the data available on dozens of Sydney rock and Pacific oysters from NSW, Tasmania and South Australia in the domestic market indicates that per capita consumption of Australian oysters has increased from 0.68 dozen per person per annum in 1989/90 to 0.71 dozen in 2000/01, a rise of 4% over that period.

This rise is essentially due to increased consumption of Pacific oysters because the Sydney rock oyster production level across Australia has not increased significantly—NSW production was 8,174,000 dozen and Queensland production was 405,700 dozen in 1989/90 (SCP 1991).

This modest increase in overall oyster consumption is nevertheless noteworthy because it came during a period that included the country's worst oyster related public health incident and adverse publicity, in Wallis Lake in late 1997.

NSW Sydney rock oyster production statistics

Year	94/5	95/6	96/97	97/98	98/99	99/00	2000/01
'000 doz	8633		7809	9048	7880	7899	7864
\$'000	27616	28073	25887	30870	27435	28385	30235
Av \$/doz	3.20		3.32	3.41	3.48	3.59	3.84

Source: NSW Fisheries reports

South Australian Pacific oyster statistics

Year	96/97	1997/98	1998/99	1999/00	2000/01
'000 Dozens	1336	1298	1441	2516	2936
\$'000	5205	4908	5489	9389	11011
Average \$/dozen	3.90	3.78	3.81	3.73	3.76

Source: SARDI data as published in Southern Fisheries Spring 2002

Tasmanian Pacific oyster production ('000 dozens)

1997/98	1998/99	1999/00	2000/01	2001/02
2657	3176	3201	3053	3280

Source: Tasmanian Department Primary Industry, Water & Environment.

Queensland Sydney rock oyster production statistics

	96/97	1997/98	1998/99	1999/00	2000/01
000 dozen	156.9	227.5	213.2	245.4	140.3
SRO	131.0	184.5	155.7	220.4	111.7
Average \$/doz	3.96	3.63	3.11	2.77	3.22

Source: Lobbeiger 2002

So while the production of Sydney Rock oysters has declined in NSW the oyster trade overall in Australia has grown in the past decade as a result of the large output of Pacific oysters from Tasmania and South Australia.

It would appear that the increasing volume of Pacific oysters has helped to keep oysters in the fishmongers window because without the regular supply of Pacific oysters some retailers would have discontinued stocking any oysters at all.

4.2. Oyster Sales And Distribution Channels

NSW is the major market for Sydney rock oysters produced in NSW, with Sydney the largest market within the state according to data collected by NSW fisheries from oyster growers. The majority of oysters are sold alive in the shell and are opened by specialist oyster processors/distributors or seafood wholesalers who also shuck and distribute oysters to retailers and restaurateurs (Figure 1). Figure one shows the many distribution channels from grower to consumer, ranging from direct farm gate sales to a most convoluted pathway with more than five marketing intermediaries.

Almost all oyster processors in NSW handle Sydney rock as well as Pacific oysters from interstate; some also handle Pacific oysters from Port Stephens.

Two noteworthy features of the NSW Sydney rock industry is the strong volume of sales in the local area of production (accounting for more than 20% in the past two years; Table 4.2 below) and the absence of sizeable grower marketing groups.

Table 4.2 Percentage distribution of Sydney rock oyster sales from NSW

Market*	1994/5	1999/00	2000/01
Interstate	30.1	17.4	17.4
Local	17.3	22.5	21.9
Other areas of NSW	9.9	24.3	17.7
Sydney	42.5	36.0	43.1

Source :NSW Fisheries reports. *Export sales from NSW are negligible (See Table 4.5).

There are several hundred oyster growers selling their own produce and only one growers group working on behalf of a significant number of growers in an area—the Clyde River Marketing Company which markets oysters on behalf of about half the growers in the Clyde River.

By contrast, local sales are insignificant for the interstate Pacific oyster growers and there are relatively few growers involved in marketing because grower marketing companies dominate product trade from Tasmania and South Australia, as discussed in the accompanying box .

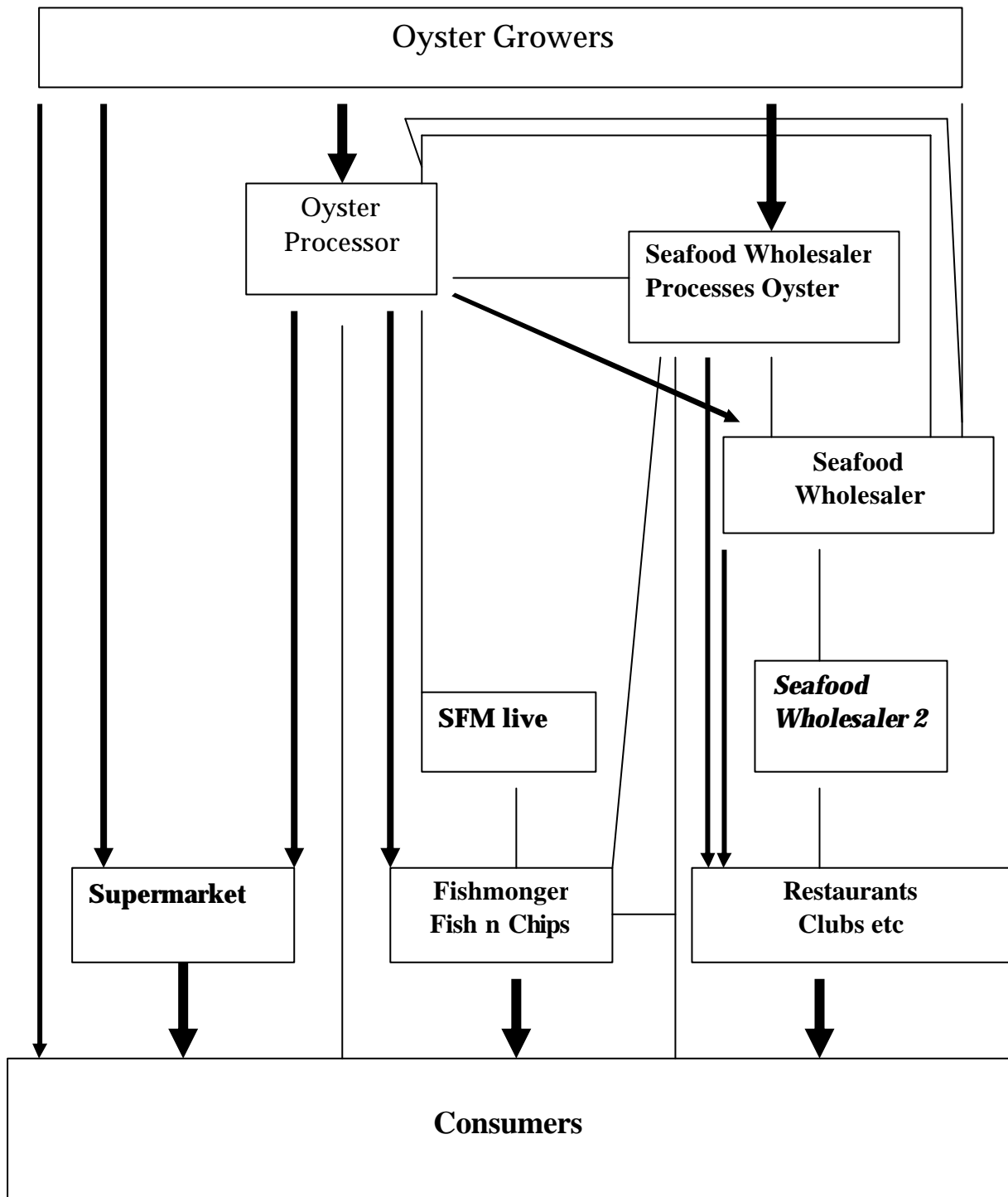
TASEA is the major company in the domestic oyster marketplace handling about half of the state's production from 25 farmers. In the last couple of years Tasmanian Quality Food has also been actively marketing oysters and mussels from Tasmanian growers. There are also several large well established farms like Camerons of Tasmania which have a significant output and compete with TASEA, Tasmanian Quality Foods and the other individual growers.

South Australian OYSA is the major operator handling about half of the oysters produced in that state from about half of its farms. In addition Simmonds Seafood Marketing Agency and Angelakis Bros also act as distributors for a number of South Australian Pacific oyster growers.

Probably more than half of the Sydney rock oysters consumed in NSW are now bought as chilled half shell or raw product in retail seafood stores and supermarkets for in home consumption, according to our assessment of recent sales. This represents a reversal of the long held industry perception that restaurant and other out of home consumption accounted for the majority of consumption. The increased sales of oysters from supermarkets has played a large part in this change in eating location.

A comprehensive study of retail sales of seafood in Sydney in 1999 (Ruello & Associates 1999a) found that oysters were amongst the six best selling non fish seafoods in 30% of supermarkets, up from only 5% in an identical study in 1991. Equally important, 69% of supermarket operators in 1999 were optimistic that oyster sales would continue to increase, compared to 21% optimistic in 1991. In NSW, bistro size grade Sydney rock oysters are now common in Woolworths stores with a seafood outlet and they are also sold in other eastern states.

Figure 1. Sydney rock oyster distribution channels in NSW. The heavy arrowlines signify the more important distribution paths.



With out of home consumption, the larger oysters are mostly eaten in the higher priced restaurants while the smaller sized ones (bistro and bottle grade) are served at buffets in clubs and similar cheaper meal venues.

A recent trend has been for fine dining restaurants to offer freshly shucked oysters of both major species for diners to enjoy, sometimes from a newly installed prominent oyster bar. Paralleling this is the installation of oyster shucking facilities in full public view at a growing number of seafood retail outlets, including four of the six retailers at the Sydney Fish Markets at Pyrmont.

Port Stephens Pacific Oyster Sales And Distribution

In NSW Pacific oysters are grown only in Port Stephens totaling only 3200 bags in 2000/01 and make up just a small part of the state's oyster consumption. They are of a smaller size and price than interstate Pacific oysters. Unlike the Sydney rock oyster, Sydney is not an important market for Port Stephens Pacific oysters accounting for less than 20% of sales volume (table below) while a little more than 50% is sold interstate, predominantly in Queensland.

Table 4.3 Percentage distribution of Port Stephens Pacific oyster sales.

Market	1994/5	1999/2000	2000/01
Interstate	67.0	59.5	52.1
Local	4.8	12.8	14.5
Other areas of NSW	16.3	11.1	14.3
Sydney	11.8	18.2	19.1

Source: NSW Fisheries reports

There has been an increase in volume of Port Stephens Pacific oysters over the past five years and an increasing percentage of sales into Sydney with a corresponding decreasing reliance on interstate sales, according to NSW Fisheries annual oyster industry data (Table 4.3 above).

4.3 Oyster Sizes And Industry Returns

The average size of Sydney rock oysters sold in recent years has declined according to the NSW Fisheries' annual returns from growers (Table 4.4 below) and this shift away from the larger plate oysters to the smaller bistro and bottle grades has been described by some growers as a decline or "downgrade" in oyster quality as well as a diminution of potential returns from the oyster crop.

Table 4.4 Sydney rock oyster size grades and prices

Size grade	1994/5		2000/01	
	% of output	\$/doz	% of output	\$/doz
Plate	55.0	3.90	28	5.30
Bistro	24.9	2.55	28	3.95
Bottle	20.1	1.77	43	2.82

Source: NSW Fisheries reports

This decline in oyster size has been attributed to

- The growers need for cash flow and/or debt reduction
- Market demand
- A strategy to avoid disease problem by selling oysters sooner rather than risk onset of winter mortality or other loss.

It appears that the decline in oyster size is a result of all of the above factors. But whatever the cause at the growers end, the sales growth of the smaller size grades is obviously an outcome of trade customer and consumer satisfaction with these smaller sizes. Our discussions with oyster processors, seafood merchants and supermarket operators indicate that these smaller size grades meet the wants of consumers unwilling or unable to pay for larger oysters at a retail outlet, or a self serve buffet style meal at a club or hotel.

The stronger percentage increase in price of the bottle grade and bistro grade versus that for plate grade; 59, 55 and 36 % respectively— whilst the volume of smaller oysters has increased —suggests that consumer demand for the larger Sydney rock is weakening. Retailers suggest that this is due to the common shortage of high quality Sydney rock coupled with the more reliable supply of Pacific oysters at attractive prices.

The decline in Sydney rock oyster average size is not of itself a decline in oyster quality and it is not necessarily an industry downgrade as suggested by some growers. Size is one of the attributes usually used in judging quality but size and quality are not synonymous.

It may well be that some farmers can maximise profits by turning out larger numbers of the smaller sizes such as bistro rather than a lower number of the larger more valuable oyster. So it would be more constructive for growers to examine what product size, or mix of sizes, is the most profitable way to operate their business. The *Oyster Profit* computer model developed by NSW and Queensland government agencies should be of some assistance in examining this question of profitability.

4.4 Market Segmentation

Victoria is a major market for Pacific oysters grown in Tasmania with NSW a close second for Tasmanian producers. South Australian Pacific oysters are sold more or less in equal volumes in South Australia, Victoria and Queensland with NSW sales volume being less important, according to industry sources.

Local sales are less important to the oyster industry in South Australia and Tasmania, because of the small resident and tourist population and the relatively short period that local oysters have been available in those states.

Tasmanian and South Australian oyster consumption is nevertheless dominated by Pacific oysters grown within the state although small volumes of Sydney rock oysters are still sold there.

Victorian oyster sales are dominated by Pacific oysters from Tasmania and South Australia but Victoria remains a significant market for NSW and Queensland producers of Sydney rock; total restaurant and club sale are approximately equal to total retail sales according to industry sources.

Queensland sales of oysters are dominated by Pacific oysters: from South Australia, Tasmania and New Zealand and restaurants usage is marginally greater than retail sales according to industry sources. The output of Sydney rock oysters from southern Queensland is increasing as is the output of tropical oysters but there is still significant trade of NSW Sydney rock oyster from NSW to Queensland according to growers.

As noted earlier there has been a substantial volume of imports of Pacific oysters from New Zealand over the past decade. The Pacific oysters from New Zealand in the past few years have been frozen raw oysters on the half shell and the vast majority of this product is distributed within Queensland and Western Australia for restaurant and retail sale according to importers.

Western Australian consumption of Australian oysters has been low because of long distance and transport costs in sourcing fresh oysters until the growth of oyster farming in South Australia. There is now an infant oyster farming industry in the south of the state producing a variety of Sydney rock oyster but the WA market is dominated by Pacific oysters from interstate and New Zealand.

The frozen New Zealand Pacific oyster is cheaper than fresh Australian oysters and therefore finds its way into cheaper establishments or Asian restaurants where they are served mostly as a cooked dish or ingredient. Some Sydney wholesalers have been selling the New Zealand frozen half shell oyster for as little as \$4.80 per dozen this year; a price level that cannot profitably be matched by Australian producers.

The major supermarket groups Woolworths and Coles report increasing sales of both fresh Pacific and Sydney rock oysters in the half shell. The make up of sales varies from state to state according to the local production and supply with Sydney Rock oysters

sales strongest in NSW where they have long been grown while Pacific oysters dominates sales in states such as Tasmania and South Australian.

In some states such as Queensland and Western Australia however supermarket sales of Australian oysters are constrained by the logistics of getting fresh oysters to distant areas from oyster growers or processors. Supermarket sales in all states are very much price driven and peak noticeably when advertised as a price special, especially at Christmas or Easter period.

With fishmongers too, oyster sales reach peak levels at Christmas and other holiday times; this dramatic increase in demand puts producers, processors and merchants under considerable pressure while they try to meet the demand.

4.5 Export Trade

The export of oysters from Australia is dominated by frozen Pacific oysters from Tasmania and South Australia and live Sydney rock oysters from Queensland, with total exports rising over the past few years to 246 tonnes in 2000/01 according to ABARE statistics (Table 4.5 below). The Queensland export figure is larger than ABARE's figure for total Queensland production and hence is most likely incorrect according to industry sources.

Nevertheless aggregate exports are still relatively small volumes, and account for less than 2% of total output in 2000/01 and 1.3% the previous year.

Table 4.5. Oyster export volumes from oyster producing states. (Source ABARE)

	NSW	QLD	SA	TAS	Aust*
2000/01	5	152*	38	47	246*
1999/00	0	69	29	48	152
1998/99	1	2	12	49	73

*The Australian total includes oysters exported from non-producing states

The average values of exports quoted in the ABARE annual statistics are recorded as thousands of dollars per tonne and are of little value in the absence of information on product type (and particularly so while some volumes are questionable).

Exporters of Sydney rock oysters from NSW and Queensland — oyster businesses as well as general exporters—all report that prices obtained overseas are not significantly higher than domestic ones after taking account of all testing, packing, freight and AQIS costs. These costs can range from \$5-\$7 per dozen for some destinations.

Only two NSW growing areas have waters with the “Approved” classification needed to meet the requirements of most countries hence the negligible volume and range of exports from NSW. In recent years these have essentially been confined to China, Hong Kong and the Pacific islands according to industry sources.

The rather high costs of testing water and oyster meats in relation to the modest value of export consignment of live or chilled oysters have also constrained the development of export markets for Sydney rock oysters from NSW.

There are far more oyster growing areas in South Australia and Tasmania classified as *Approved* and their exports have been characterised by substantial shipments of frozen half shell oysters. Hence exports of Pacific oysters are of much greater volume than those recorded for NSW Sydney rock oysters and go to many more nations including Singapore and Japan which formerly imported NSW Sydney rock oysters. With Pacific oysters too exporters report that profit margins are not overly attractive and export sales are sought to constrain domestic supply growth and strengthen prices overall.

The Nambucca-Bellinger region is unlikely to get its waters classification completed before mid 2004 and hence is prevented from exporting to most countries at this time because of the high cost of having each batch of oysters tested before exporting.

5. MARKET OUTLOOK AND REQUIREMENTS

5.1 Consumer Preferences, Packaging and Branding

A series of focus group studies with Sydney consumers in early 1999 revealed that oysters were perceived as being at the top end of the seafood market, having aphrodisiacal properties and more likely to be eaten when dining out. The image of a typical oyster eater was perceived to be very wide, encompassing bossy, elegant, natural, sophisticated people and practiced consumers (Ruello & Associates 1999b).

The 1999 consumer study showed a strong positive image for oysters; this was surprising given that the study was undertaken not long after all the media coverage of the Wallis Lake oyster related illnesses. Not surprisingly one of the greatest consumer concerns about seafood, including oysters, was food safety. Our interviews with oyster retailers and restaurateurs for this report indicate that the positive image prevails today.

A significant point in the 1999 study of retail sales (Ruello 1999a) was the retail store operator's observations that Asian consumers show a strong preference for Pacific oysters. This preference was confirmed recently when we interviewed 20 Sydney retailers and then visited seven retail fish markets in the suburb of Cabramatta. All seven Cabramatta stores — patronised by a predominantly Asian community — stocked Pacific oysters live or half shell and none carried Sydney rock oysters at all.

Our interviews with retail fishmongers around the country revealed that Sydney rock oyster sales dominate in areas near where Sydney rock oysters are grown or where there are older consumers who have grown up accustomed to Sydney rock oyster.

Pacific oyster consumers are reportedly more common amongst the younger shoppers probably because, as two retailers remarked, they see the white shell, white meat, Pacific oyster as the benchmark, they don't like the look of the darker less uniform looking Sydney rock oyster. Also relevant is the fact that young people have not had as much exposure or experience with Sydney rock oysters as have most older consumers.

The overall appearance of the oyster— shell shape, shell colour and meat colour and volume — is a critical feature for market success. Many retailers noted that consumers are attracted by good looking oysters and that they can sell high quality oysters very easily.

Perceived value is the key to increasing demand. An attractive oyster will gain attention even if it has a high price point whereas an unattractive oyster is not seen as good value regardless of a cheap price point. Hence the stronger price rise of bottle size grade oysters compared to the plate size grade (Section 4.3) which has not fared as well alongside the Pacific oyster.

Packaging And Presentation

Half shell oysters have traditionally been distributed in 10 dozen lots in waxed cartons or styrene cases and these are commonly used in retail displays at the fishmongers or supermarkets outlets.

Retailers and restaurateurs alike would welcome a five dozen pack to facilitate stock rotation and maximise freshness according to our interviews. Yet only one company tries to meet this demand. Tasmanian Quality Foods a newly established marketing company recently introduced several innovative packs including a five dozen fibreboard case with two 2.5 dozen moulded plastic presentation trays inside to enhance presentation. Appendix 1 shows the wide range of products and packaging offered by Tasmanian Quality Foods (TQF).

The TQF new design cardboard carton comes with a separate lid extensively covered with a logo, brand name and other pertinent information.

There has however been no innovation in retail presentation or packaging to attract consumer attention or promote sales. The common polystyrene tray with a dozen oysters and clear polythene overwrap is now dated and boring and the black plastic dishes used in some retail outlets are hardly more appealing.

Supermarket and other retail sales could be vastly improved if half shell oysters were displayed in a container designed specially to firmly hold a dozen or half a dozen oysters in an appealing manner. Supermarket operators in particular would welcome innovative packaging that is food safe, display case friendly and appealing to the eye.

Branding

The branding of products with a unique name and logo can be a strong marketing tool if the product is consistently true to the label or specifications ie if the quality does not vary, regardless of the quality level of the product (premium/gold label or standard/no frills etc.).

In the Australian oyster industry TASEA and OYSA are trade brands used by Tasmanian and South Australian oyster growers respectively to differentiate their product from others in the marketplace. As noted above Tasmanian Quality Foods has gone to considerable effort to differentiate its brand with innovative packaging.

Growers in the Nambucca Group can also benefit from branding their product once they have developed a product specifications sheet which clearly states what products and services they offer. However they should not proceed to promote a brand name unless they are confident that the group can in fact give the products and services they offer with some reliability.

A good brand is built up on a promise of consistent product features and reliable service. A successful brand has intangibles such as trust which is valued by customers

and thereby adds to the company's intangible assets. The brand has no value or can even be damaging to the business if it is unreliable.

The Nambucca region has a favourable reputation among many oyster processors retailers, restaurateurs and consumers and so this regional name and/or the Coffs Coast appellation can be used in branding and promotion once the Group's commitment to reliable quality and service is evident. However, given that there are three rivers in the Coffs Coast Region a non-regional brand is probably better because it allows for the regional name to be used as well as a business brand name. The wine industry provides many admirable models of the use of regional and brand names for market development.

Once the Group has established some positive presence in the marketplace and feels financially secure the feasibility of individual labelling of oysters should be examined so the oysters are readily identified by consumers too as well as the commercial user who buys a 10 dozen pack.

Individual labelling offers the consumer total confidence and traceability but it too should not be pursued unless the product is reliably true to label.

5.2 Domestic Market Outlook

The demand for high quality Sydney rock oyster exceeds supply according to growers and buyers so the outlook for cost efficient producers of the better quality oysters is very attractive. The growth in demand and the prospective prices for oysters overall is dependent on many factors and hence difficult to predict.

The supply and price of Pacific oysters, especially chilled ones from interstate, is a major factor in the marketplace. A strong supply of Pacific oyster in competitive markets such as those in capital cities creates something of a ceiling for the larger Sydney rock oyster prices especially in retail stores where consumers can compare appearance and price; it also dampens demand for the Sydney rock oyster.

This ceiling on the retail price point in turn constrains the price processors and retailers can pay for their supply of what may be called ordinary or average quality Sydney rock oyster. Hence aggregate demand for average quality SRO will probably only increase slowly, in line with population increases, unless there is some significant change in the oyster marketing environment such as a noticeable price discount or a substantial improvement in the appearance/quality of the industry's output.

We believe that oyster growers should aim to produce a more attractive/higher quality Sydney rock oyster — across all size grades— in order to raise demand and the retail price, which in turn will raise the price to farmers.

The supermarket chains Woolworths and Coles are confident of increasing sales of Sydney rock oyster especially if the quality were to improve; fishmongers too are mostly optimistic about increased Sydney rock oyster sales especially if there is a noticeable improvement in quality. Retailers suggest that sales volumes can double almost immediately when a case of high quality oysters is put out to sale.

New customers or consumers, nor new products are necessarily needed by the industry to improve its fortune because an immediate doubling of consumption and demand for Sydney rock oysters could not be met by growers because of the time lag in increasing oyster output. It would take about five years, with good fortune, to double output.

There are a small number of processors, retailers and restaurateurs who rate the Sydney rock oyster as the best species, but many retailers are prepared to pay significantly higher prices for better quality Sydney rock oysters— a dollar more or about 20% per dozen at the grower level. Growers with the necessary lease facilities and financial resources can apparently delay sales and raise oyster quality for an added cost of about 10%, producing a 10% increase or doubling of profit according to some growers.

This potential doubling of profit margin coupled with a potential doubling of demand (and supply) as a result of improved quality could lead to as much as a four fold increase in industry profit over a period of about five years.

So the industry's future clearly is dependent on the growers' efforts at managing product quality, quantity and demand. Promotion can be beneficial but needs to be carefully managed too as outlined in Section 5.22

5.21. New Opportunities And Niche Markets

The majority of Asian diners in Australia are not accustomed to the Sydney rock oyster and therefore represent a sleeping market segment that can be specifically targeted with larger high quality oysters to raise demand over the longer term and improve prices to growers. The restaurants and retail outlets with open oyster bars are another attractive target group for those interested in the connoisseur niche market.

Other avenues open to farmers wanting to widen their distribution channels or seeking new consumers to enhance their returns are the SFM live electronic sales option as well as the increasing number of “farmers markets” opening up around the country. These have both been tried by a few farmers around the state with mixed results according to the information available.

The Sydney Fish Market electronic sales approach appeals to growers who are comfortable with electronic transfer of funds and market information and seeking low marketing costs but not wanting personal contact with customers. The growers market is a total contrast: it is characterised by face to face contact and a cash transaction with the consumer/customer and this niche market appeals to those seeking a higher profit margin and interested in dealing with the public.

The growers markets also offer the opportunity for development of a new product category : “organic oysters”, to satisfy the consumer looking for food produced with no chemical inputs and minimal impact on the environment. This group of consumers are willing to pay a substantial price premium for “organic” foods and so represents an attractive market niche

The internet and company web sites can also be used to access trade customers and consumers across the country wanting to buy oysters direct from growers.

We do not see frozen oysters or highly processed oyster products as offering any particularly attractive opportunities in the short or mid term. Several attempts by Tasmanian and South Australian companies with frozen oysters Kilpatrick and similar products in recent years have not yet proven profitable despite substantial financial investment and a relatively low raw material cost.

Growers interested in exploring any new markets or marketing options should however take account of the likely impact on their existing marketing arrangements and overall success of their business.

5.22 Generic And Brand Promotion

The issue of promotion of Sydney rock oysters arises at almost all strategic meetings of the oyster farming industry. It is not an easy issue to resolve or get unanimous agreement on because promotional needs vary from one area of NSW to another and because promotion is a complex function and entails far more than advertising, as some growers have already noted.

The long standing argument that generic promotion of Sydney rock oysters, a product commonly available for about only half of the year from many estuaries while Pacific oysters are available almost all year round, constrains the benefits to the Sydney rock growers has some merit.

Nevertheless we believe there is a need for selective generic promotion of Sydney rock oysters to raise awareness of this indigenous oyster and thereby stimulate demand. There is a growing number of consumers who are not familiar with Sydney rock oysters as a distinct species grown in many estuaries and offering a multitude of taste sensations. Point of sale promotional material in selected retail outlets or restaurants, for example, can be very effective in raising awareness of Sydney rock oysters at a time of strong supply.

Any generic promotion however needs to be well planned and sensitively implemented in order to maximise the benefits to the growers otherwise good intentions and funds can easily be dissipated with little value for money. Generic promotion and indeed any brand/regional promotion needs to be carefully planned in regard to when, where and how, so that it does not inadvertently adversely impact on other oyster growing area or groups or resurrect a fear about oyster safety.

Generic and brand/regional promotion are compatible and not mutually exclusive and so our endorsement of targeted generic promotion should not be taken as a signal to cease brand/regional promotion by individual growers or groups. After all, both types of promotion serve to raise awareness of the Sydney rock oyster and enhance growers' prices even if the latter directs the consumer to Sydney rock oyster from a specified region, group of growers or an individual grower.

However we suggest that the issue of product specifications, uniform size and quality grading — as discussed earlier—be addressed before any group of growers invests heavily in promotion. At this time it would be imprudent to widely promote a product which is so variable from day to day and area to area, particularly when the supply of prime quality product frequently cannot meet the demand. In other words new markets and consumers should not be sought while existing customers do not have their needs for high quality oysters adequately fulfilled.

5.23 Linkages with Regional Cuisine Program

The Regional Cuisine Program (RCP) has been jointly funded by State (Department of State and Regional Development) and Federal (Department of Transport and Regional services) government to assist food producers in the regions establish networks linking them with users of food, such as restaurateurs.

Julia Caldicott has recently been appointed Regional Cuisine Coordinator to work in the coastal area between Woolgoolga and Forster area.

She foresees oyster growers in the Nambucca and Bellinger estuaries participating in events such as the *Taste of Nambucca* and *Taste of Bellingen* where restaurateurs and consumers can look at and taste locally produced oysters along with other local produce and manufactured goods. The RCP will probably also assist regional groups of producers to participate in trade shows under a common banner, according to Ms Caldicott.

Such events can prove very effective in raising awareness of the oyster industry and its produce to visitors to the respective area or event. But as noted earlier any promotion needs to be carefully assessed as to when, where and how it can be most effective; it can be counter productive to promote a product when, where or if it is unavailable.

5.3 Export Outlook

The outlook for increasing exports of Sydney rock oysters is good because there is a strong interest in exotic seafood, including oysters, in many affluent areas of Hong Kong, China, Japan, Europe and the USA. Furthermore Australia's clean green image is a marketing strength that gives it a competitive advantage over some of the larger producing countries in the northern hemisphere.

Several oyster growers interviewed during the course of this project mentioned various "leads" and countries such as the UK, Japan and Spain as having strong interest in Sydney rock oysters but there are no reliable first hand information on volumes required, prices available etc.

Exports should not be regarded as the panacea for the Sydney rock oyster industry, rather they are best seen as another customer and not necessarily one offering a higher net return to growers than current customers.

Long established Sydney oyster exporters such as Kings oysters, several experienced seafood exporters and interstate oyster exporters all report that oyster exports are a specialised business which requires considerable effort which is not overly rewarding and sometimes unprofitable when shipments are lost or delayed in transit.

It is clear that there are prospects for increasing export volumes of Sydney rock oysters but export markets are slower and more costly to develop and service than local markets. It is also evident that the Study Group will not be in a position to examine these for at least a couple of years because of supply constraints and lack of "Approved" waters classification.

Furthermore, new exporters of Sydney rock oysters will be exposed to the risk of disputation over product size/value just like growers are today in the domestic market while there are no industry agreed product specifications.

The likely impact of increased exports on the domestic supply and prices and the likely alienation of domestic customers and consumer is another issue that the Sydney rock industry should consider when examining the feasibility of entering or expanding export markets.

An export drive at this time does not appear necessary while there is unsatisfied local demand.

6. CENTRALISED PROCESSING FACILITY

All of the nine growers participating in this study expressed some interest in the concept of a centralised processing and marketing facility with depuration equipment and a size grading machine to facilitate uniform product grading. But several growers were strongly interested in the depuration function while others were more interested in the opportunity to pool their output, have a stronger marketing position as a group and being able to tackle export markets.

Therefore the financial viability of a business capable of depurating, grading and marketing oysters around Australia and overseas on behalf of participating growers was examined by means of a computer model of a business whose income and profit is derived from the handling charge paid by members for the services provided. Oysters would be sold to the members' existing customers (and later, new customers) and the members receive the sales income minus the company's handling charges for the processing and marketing services.

The business may also buy in goods and equipment in bulk on behalf of members but this would be invoiced to members at cost and produce no income or profit for the company.

6.1 Business Structure, Operations And Location

Ownership Structure

The business model used in this study is a private company; this legal structure was selected because it allows for a relatively straightforward and inexpensive start up and uncomplicated ongoing operations. An unlisted public company could also serve the purpose, and would indeed be the necessary model where a membership of more than 50 is envisaged, but it has a more complicated and costly start-up and management.

A cooperative structure is often perceived by primary producers as an ideal business structure however the history of Australian yabby and oyster cooperative groups shows that they are soon restructured as private or unlisted public companies to allow for a more commercial focus. TASEA and OYSA are now unlisted limited companies.

Cooperatives are commonly favoured by primary producers because they feel comforted by the idea that each member has the same (equal) voting power as another but in reality some personalities and agendas still come to the fore and play a stronger role than others in a cooperative as well as in a company.

Regardless of the legal entity utilised to operate the oyster business the critical success factor is that there is enough commitment and trust amongst the group members to get the volume and the high quality of oysters needed to ensure group profitability.

Considerations For Membership

Ideally prospective members of a group marketing company should have:

- Trust in other members and the company
- The trust and commitment to a common goal from which everyone can derive a benefit, however they should also recognise that not all will necessarily benefit equally, especially in the early days of operation
- Adequate financial capability to join the company and “live with” the company’s long and short term financial forecasts
- A preparedness to “hand over” all of their customers to the company and not compete with the company with any oysters not acceptable to the company
- A commitment to follow the company’s product specifications and grading scheme
- A willingness to accept company rules and the manager’s decision on non-conformance issues and recognise that occasions will probably arise when product is discounted or rejected by the company
- A willingness to actively participate in meetings
- A willingness to provide assistance, where needed, to contain costs, especially in mundane tasks such as cleaning up at the end of a days work.

Building, Plant And Equipment

The building, plant and equipment requirements for an annual throughput of up to 10,000 bags of oysters, and for some limited primary processing (shucking) and retail sales are as follows:

A styrene panel building of 10 X 12 metres with a grading and depuration room, a shucking room, cool room, a retail sales room, an office, shower and toilet facilities all built to satisfy local government, SafeFood Production NSW and FSANZ requirements.

A depuration plant of 30 bags capacity with pump, UV lights and plastic baskets.

A fully automated electronic grading system with wash facility, inspection conveyor unloading hopper and bin tipper.

A processing room with up to four stainless steel sink work stations for opening and packing oysters.

A refrigerated retail display case and a cool room for holding opened oysters and a cash register for cash business.

An office with computer, business software, fax, printer etc.

A one-tonne capacity insulated truck (low mileage second hand is adequate).

Location

Several sites along the Nambucca and Bellinger River were examined and identified as satisfactory by growers.

The exact location of a central processing facility was recognised as an important one by growers and so a consensus decision on the best site should be made by any group of growers after taking account of :

Water quality: A suitable water temperature regime for depuration is necessary to meet Safe Food Production NSW requirements so the likelihood and duration of a cessation/closedown of depuration as a result of rain or other event needs to be minimal. The Local Shellfish QA program records and any Safe Food' Productions NSW's historical data should therefore be consulted for a sound decision making process.

Land dimensions and approaches to enable heavy vehicle access, and to contain the cost of land lease.

Finding a "central" location to minimise the growers' transport costs and travel time to the facility from each growing area.

6.2 Financial Analyses And Viability

A computer model of a company facility along the lines outlined above was set up. The capital items and equipment for this facility and their costs totaling \$454,000 are listed in Table 6.1. The business commences operation with members contributing \$113,750 in funds (25%) and taking out a loan of \$341,250 for the remaining 75% of the start up costs.

The model and accompanying financial data are based on income and outgoings over a 10 year period, with a 3% inflation rate in years 3-10 (costs were held constant for year two). The building is depreciated over a 20 year period, the motor vehicle is replaced after five years and other equipment is depreciated over the 10 years unless otherwise indicated.

The fixed operating costs for operating this facility employing a full time manager were then estimated as shown in Table 6.2. The computer model was then used to examine the outcome over a ten year period using discounted cash flow methodology (See box), particularly the cost members of the group would need to be charged for the business to recover the costs of grading, depuration and marketing on their behalf. ie the company's breakeven handling charge per bag or dozen oysters sold.

Prospective members can compare this processing and marketing cost or business option with their *status quo* or some other processing/marketing option.

Discounted Cash Flow methods for evaluating investments recognise that a dollar earned is better than a dollar received in several years time because it could have earned interest in the interim. Thus we discount the future earnings by the discount rate to get present value

Internal Rate of Return (IRR) is the interest rate at which the present value of earnings (or savings) from the investment over future years is equal to the present value of all of the investment and all cash outgoings from the project ie the discount rate which gives a Net Present Value (NPV) of zero.

The IRR represents the highest rate of interest at which a firm can borrow money for a project without making losses.

Table 6.1. Processing facility items and costs

Grading and Processing building	250000
Insulated 1 tonne vehicle (second hand)	30000
Depuration tank (30 bag) pump and uv lights	20000
Packaging development	10000
Cool room	9000
Marketing & QA system development	12000
Office equipment (computer, printer, fax chairs desk)	7000
Grading machine and accessories	75,000
Stainless steel work benches with sinks	12000
Establishment and legal fees	10,000
Plastic baskets	6000
Retail refrigerated display case	8000
Miscellaneous	4,000
General cleaning equipment	1000
Cash register system	1000
Total	454,000

Table 6.2. Annual operating costs for the facility

Manager's remuneration package	\$75000
Motor vehicle costs	7000
Insurances	12000
Electricity	5000
Land leases costs	10000
Market development and promotion	20000
Repairs and maintenance	10000
Licence fees and registrations	2500
Miscellaneous	2500
Accounting and administration	2500
SQAP costs	2500
Water	2000
TOTAL	151,000 PLUS the LOAN repayments on \$343,500

The assumptions behind the model were:

A styrene panel building would be constructed on a riverside site leased at an annual cost of \$10,000 pa in year one; members would assist in locating and preparation of a site to contain costs. The building would house a depuration plant of 30 bags capacity, a fully automated electronic grading machine similar to the Tasmanian manufactured SED Grader

A quarter of the total costs would be provided by members and the balance borrowed from a financial institution.

The business operates with one fulltime multi-skilled manager who is responsible for maintenance and supervision of the depuration plant and grading machine, marketing and administration. Additional requirements for labour are provided by the members or by casual staff employed as needed.

The company sells various oyster grades and products to members existing customers at highest prices prevailing and does not seek to undercut others in the marketplace. The model takes no account of the actual oyster sales revenue (or any future sales of equipment) because the company's income shown in the spreadsheets is only the handling-marketing charge deducted from the grower's sales revenue.

The company bills growers for the direct packaging costs eg cartons or styrene cases (at cost) for any packaging of their oysters and any freight costs are built into the sale price and paid buy the buyer.

The model was used to calculate breakeven price/charge for 1000, 1500, 3000, 5000, and 10000 bags throughput per year. (The Study Groups throughput in 2001/01 was a little less than 1500 bags). The underlying financial assumptions are listed in the table below.

Table 6.3 Assumptions for base analysis of oyster business

Start date	July 2003
Business structure	Company
Overdraft rate	10%
Superannuation rate	9% of salary
Work cover rate	1% of salary
CPI increases	3% pa
Inflation rate/annual increase in prices	3% pa
Capital introduced (owners equity)	\$113,750 (25%)
Loan funds	\$341,250 (75%)
Loan interest rate	8% pa
Loan term	10 years
Loan start date	July 2003
Discount rate for NPV calculation	5% real (8% nominal with a 3% CPI

The computer model was used to produce the following financial data sheets:

Year one monthly cash flow budget for 1500 bag throughput

Year ten cash flow budget quarterly for 1500 bags

Profit and loss statement, years 1-10 for 1000,1500, 3000, 5000 and 10,000 bags

Balance sheet, years 1-10 for 1000,1500, 3000, 5000 and 10,000 bags

These sheets are all attached in the appendix at the end of this report.

The key findings are:

At the current throughput of about 1500 bags/3000 cartons per annum the Group would have to charge members a handling-marketing fee of \$1.27 per dozen (Table below) for it to break even on its fixed operating costs. This would not be affordable for growers at current oyster prices.

Table 6.4 Breakeven (BE) cost/charge of size grading, depuration and marketing at different production levels

Throughput (bags)	BE handling cost/charge (\$/bag)	BE handling cost/charge (\$/doz) *	* Breakeven year
1,000	\$203.27	\$1.90	5
1,500	\$135.51	\$1.27	5
3,000	\$67.76	\$0.63	5
5,000	\$40.66	\$0.38	5
10,000	\$20.33	\$0.19	5

* Calculated on the basis of an average 107 dozen/bag.

The model shows breakeven costs for the business is not achieved until year five and that the manager's remuneration is the most sensitive item in the fixed costs.

At lower throughput levels of 1000 bags the breakeven costs of \$1.90 per dozen would clearly be intolerable for farmers. Even at 3000 bags per annum throughput the costs would be 63 cents a dozen, a substantial fee at current oyster prices. At 5000 bags per annum throughput the cost of 38 cents per dozen is similar to the cost incurred by individual growers today, according to industry sources.

At greater throughput levels, say 10000 bags, the 19 cents per dozen cost is attractive given that depuration costs alone are widely considered to be at least \$10 per bag.

Each group of growers interested in working collectively in a company structure or as a cooperative would need to examine these figures carefully in the light of their current depuration plus marketing costs, individual financial and human resources and their propensity for risk taking to decide if a collaborative facility is better than their existing operation.

6.3 Sensitivity Analyses

Sensitivity analyses were conducted on the key items in our schedule of fixed operating costs in Table 6.2 on the business profitability (at 1500 bags per year throughput), as follows.

Management Costs

The base model examined was with a manager employed full time and paid a package of \$75,000 covering salary, Superannuation, workcover etc. The results were then examined under the assumption that the manager's package cost was reduced. The results were quite sensitive to a change in remuneration package: A 20 percent reduction in package to \$60,000 would raise the Benefit/cost ratio to 1.08, increase the operating profit in year ten from \$50,000 to \$70,000 and brings the breakeven year forward to year 2 (Table below).

A reduced salary package however suggests acceptance of a lower level of expertise or experience in the manager, which may prove senseless given that expertise is necessary for success.

Table 6.5 Sensitivity of oyster business to changes in management costs

Wages	Net Present Value ^a	Benefit/Cost Ratio	Internal Rate of Return ^b	Breakeven year ^c	Year 10 op. Profits ^d
\$75,000/an	\$0	1.00	8.2%	Year 5	\$50,000
-10% (\$67.5K)	\$64,000	1.04	11.2%	Year 3	\$60,000
-20% (\$60.0K)	\$126,000	1.08	14.2%	Year 2	\$70,000
-50% (\$37.5K)	\$310,000	1.22	23.1%	Year 2	\$99,000

^a Calculated as the discounted stream of benefits from the investment over a 10 year period less the discounted stream of costs over the same period. The discount rate is 8.2% (derived from a real rate of 5.0% with CPI=3.0%).

^b The internal rate of return is the discount rate at which an investment has a net present value of zero.

^c The year in which operating profit (before tax) is positive i.e. total income exceed total expenses.

^d Operating profits (before tax) earned in year 10 of the investment.

A 50% reduction in the salary costs brings about a large increase in profitability as shown above, but it would be possible only if the manager was employed on a half time basis, and it seems unlikely that all of the managers duties could be fulfilled on a half time employment basis.

The option of employing a competent manager on a half time basis and members volunteering their services for the remaining time may have some appeal but it is fraught with danger if several persons have to share responsibility for the one business but do not work in a compatible manner.

Market Development And Promotion Costs

The business profitability was found to be less sensitive to the cost of market development and promotion. The base case assumption was that \$20,000 would be allocated for market development expenses to develop stronger markets and product prices for the participants.

The table below shows that a 10% reduction in marketing costs from \$20,000 to \$18,000 would increase the Benefit/cost ratio to 1.01 and the operating profits in year ten from the base case of \$50,000 to \$53,000.

Table 6.6. Sensitivity of business to changes in marketing costs

Market Development	Net Present Value	Benefit/Cost Ratio	Internal Rate of Return	Breakeven year	Year 10 op. Profits
\$20,000/an	\$0	1.00	8.2%	Year 5	\$50,000
-10% (\$18K)	\$18,000	1.01	9.0%	Year 4	\$53,000
-20% (\$16K)	\$34,000	1.02	9.8%	Year 4	\$55,000
-50% (\$10K)	\$83,000	1.05	12.1%	Year 3	\$63,000

^a See notes to Table 6.5.

A 20% reduction in the marketing budget would increase the Cost/benefit ratio from 1 to 1.02 and raise profit in year 10 from \$50,000 to \$55,000 but this reduced budget would reduce the capacity for market development and overall success, perhaps too much.

We believe it would be premature for the Study Group to initiate establishment of a centralised processing- marketing business at this time given its small production volume and the members' varying objectives and commitment to such a project. Even with an unlikely 3000 bags per year production level in five years time the business would only break even if it were charging members 63 cents per dozen for its services.

While the commitment and production volume are inadequate for a processing-marketing facility in the immediate future we can see benefits in the Study Group proceeding to develop a collaborative marketing arrangement and revisiting the concept of a centralised processing-marketing facility at a later time, as indicated in Section 7.2

7. GROUP MARKETING FEASIBILITY

7.1 SWOT Analysis on the Study Group

The strengths and weaknesses of the prospective oyster processing-marketing group in the Nambucca Bellinger region and the opportunities and threats facing it are summarised in the tables below. They indicate that the Study Group's current status and outlook is better than industry average in NSW and the next section explores how the group can benefit from its strengths and opportunities.

Table 7.1 Strengths and weaknesses of the Study Group

STRENGTHS	WEAKNESSES
Nambucca River oysters are well regarded by the more knowledgeable seafood merchants and consumers; neither the Nambucca or Bellinger estuary have a negative image with consumers or the trade	Bellinger oysters have low profile
The availability of oysters from two estuaries means that there is greater flexibility and strength in supply capability	
Oyster output of single seed is more appealing than stick oyster	Marketing and computer skills of most growers are limited
Well located re distribution to Sydney, Brisbane, Coffs (major) tourist area, many inland towns and overseas	Higher incidence of summer rains and risk of closures at the end of the marketing period
Able to start marketing oysters earlier in the summer season than the southern estuaries	
A small number of people, easier for group management	Only about 1% of state's production
Winter mortality and Qx not a significant problem	Animal diseases, parasites or pests
Rivers are essentially productive and clean and aggregate oyster output can be increased substantially	Some distance between leases and sheds for a few growers
Local govt, NSW Fisheries and the State & Regional Development Dept. are supportive of oyster industry	Financial situation of some growers is not strong

Table 7.2 Opportunities and threats facing the Study Group.

<i>OPPORTUNITIES</i>	<i>THREATS</i>
Increased government interest in “healthy rivers” augers well for oyster growers	Oyster trade experiences a sizeable downturn due to shellfish related public health scare which lowers demand
Domestic market demand for high quality oysters is strong and growing. Oysters image as a sexy food is a marketing advantage.	Oversupply of Pacific oysters from overseas or Australia depressing oyster prices
The supermarket sector is especially keen for increased oyster sales	
Consumers of Asian origins not yet Sydney rock oyster eaters and therefore represent a sleeping market segment	
New technology and alternatives to timber on leases offer opportunity to constrain rising production costs	
In the mid to long term there are opportunities for value adding through innovative packaging and processing of oysters	
“Approved” water classification opens access to export markets	
Nambucca-Bellinger Group can establish itself as the market leader with good product QA, market planning & promotion	

7.2 Group Marketing Considerations

Marketing was cited as a major problem or constraint to the growth of the business by five of the nine growers in the Study Group. Additionally, farmers in the Nambucca and Bellinger estuaries, like their colleagues elsewhere in Australia, have experienced difficulties in getting paid in a reasonable manner.

Two of the nine expressed a strong dislike at having to negotiate prices with buyers and to deal with undercutting by other oyster growers in the state. Almost all reported that some buyers take advantage of the lack of uniform and consistent size and quality grading to play one grower off against another on price and thereby keep prices down.

Therefore we believe the concept of group marketing has considerable merit for the Study Group, and others, because :

- The aggregated volume from a number of growers means greater volume of most size categories and greater volumes of high quality product for sale. This aggregation creates opportunities to service customers over a longer supply season and places the group in a more reliable supply position. The group thereby has greater market power than any individual grower.
- Furthermore buyers cannot take advantage of individual growers regarding uncertainty about size grading and prevailing market prices.
- Having a person responsible for the marketing function enables that person and the group to be better informed on prices and market conditions. This increased knowledge enhances the group's power to negotiate better prices.
- Group activity means growers can share information on creditworthiness of various buyers and help reduce the group's risk of extraordinary lengthy delays in payment or a complete default.
- Similarly the growers can share their information on general hands and identify a pool of reliable and responsible people who can be recommended for employment on farm.
- The economies of scale gained in group marketing can deliver some savings in transport and selling/marketing which should partly offset the selling fee charged by the group.
- There are also opportunities for group buying of cartons and other goods and services and further reducing costs; this could become important as the industry moves to new materials as a replacement to timber.
- Growers collaborating as a marketing group and no longer personally involved in day to day marketing activities can then concentrate their efforts on growing oysters in a more cost effective manner.

There are nevertheless some critical issues or impediments that have to be addressed for a marketing group to succeed :

- Agreement on a set of product size and quality grades
- Acceptance of group operating rules and a willingness to “pass on” good customers to the group and desist from selling “reject” oysters in competition with the group
- Trust in group members and a commitment to the group ideals; a need to accept short term losses in exchange for the long term gain.

An agreement on and a commitment to uniform quality standards is a big first step for successful development of a marketing group and indeed for the Sydney rock oyster industry as a whole. We are aware of the high variability in Sydney rock oyster and the magnitude of the task ahead, but it is a critical issue that needs addressing without delay. New opportunities such as electronic marketing and export trade will then be far easier and profitable.

Group Marketing Options

There are three options open to oyster growers interested in marketing as a group:

- A full marketing and processing operation with its own premises and full time management responsible for marketing and processing
- A marketing business with a marketing manager responsible for selling and promoting its products from rented premises
- A single desk marketing operation employing someone on a part time/commission basis and responsible for selling only (commonly referred to as a single desk sales operation).

The first of these three is the most complex and costly to initiate and manage, as discussed earlier. The third is the simplest and cheapest to initiate and direct.

The three options can serve as three stages in the development of a new business and we believe that this staged development approach is the best option for the Study Group because it allows them to start with very little capital and progress steadily as group commitment, cohesion and confidence strengthen.

We suggest that the Study Group start with the establishment of a single desk group operation selling oysters to the growers' existing customers, progress to a marketing business servicing an enlarged customer base and at a later date re-examine the feasibility of establishing a centralised processing and marketing facility. A detailed implementation plan is laid out in the following section.

8. IMPLEMENTATION PLAN AND RECOMMENDATIONS

8.1 Development Strategy

We recommend a four point development strategy for the Nambucca Bellinger Group as follows :

- .Development of product specifications defining oyster size and quality grades
- Upgrade product quality and QA across all size grades: Individual growers upgrade the quality of their products and collectively develop a comprehensive product QA program for the group
- Promote and strengthen the group business, first with existing customers and later a with new customers or markets if appropriate
- Annual business analysis. Individual growers analyse their business and the feasibility of investing on farm to improve output and economies of scale The Group reviews its business annually and plans ahead; drops bad customers and seeks new ones as demand increases, to strengthen prices.

This strategy aims to make growers more business and customer oriented and not so production driven. The focus is on increasing profitability from existing products and customers; we do not see that exports, other new markets or frozen products offer better profits in the short term while there is unsatisfied demand in the domestic market.

We would suggest

To be market leaders in the Sydney rock oyster industry through premium quality products and service

as an appropriate Study Group mission to guide progress.

8.2 Staged Implementation Plan

Growers in the Study Group who see merit in this strategy after consideration of this report and choose to proceed to work together can implement the strategy over a period of three years or so along the following lines. Responsibilities for the various tasks and the performance indicators are detailed in the tables at the end of this section.

Year one

The group seeks business assistance grant from the Department of State and Regional Development to establish a marketing group.

It then organises a workshop with an outside facilitator to develop a Memorandum of Understanding which defines the groups objectives, rules of operations and considers the matter of group and brand name.

This meeting (or another) is used to gain agreement on interim product specification sheets on size grade and quality grades to be sold by the group. Other issues which need to be addressed are:

- Quality control procedures for attaining uniform grading
- product distribution channels and pricing structure
- marketing charges
- customer transfer from the growers to marketing representative and
- terms of trade.

Launches the marketing group with a small local function and a media release to customers, key government agencies, local media and the seafood and food service trade media.

Engages the services of a marketing representative; this could be one of the current farmers or employees or a new person. Agrees on experience and skills required, remuneration and terms of employment. An agency arrangement with the representative working from his/her own home or office appears to be the best approach for all regarding food safety legal status, accounting and marketing ease.

The marketing representative coordinates and aggregates supply, arranges sales, manages all related paper work and banking on behalf of members. Gets paid an agreed fee for services, based on a commission rate of say 20 or 25 cents per dozen on a sales volume of 1500 bags (average 107dozen per bag) this provides an annual commission of \$32,700 and \$33,437.50 respectively.

A key prerequisite is that the marketing representative have the personal strength and confidence to resist pressure from individual members challenging decisions.

Seeks outside support from NSW Fisheries, State & Regional Development for funding a R & D pilot project on developing uniform product size and grading for various customers and consumers of Sydney rock oyster.

Individual growers work to upgrade the quality of their oysters according to their own capability and resources.

Individual growers and the marketing person strive to provide high quality service to customers consistently.

Year two

The Study Group reviews the sales representative's work and the success of the single desk selling activity; seeks candid comment from customers as part of this review. If business and group relationship is deemed satisfactory the group should consider upgrading the part time sales representative arrangement to a full time sales and marketing position; if so it should then seek professional assistance to develop a marketing plan.

The interim product specifications, the group's honorary quality control system and the progress on the pilot project should be reviewed. The Study Group's product specifications will probably need changing in the light of the pilot project outputs.

Development of a comprehensive model QA program for growers, based on uniform size and quality grading covering all activities from harvest to delivery at the customers door as per discussion in Section 3. The group can get Commonwealth assistance on this through FarmBi\$ or other programs.

If product quality is reliable and supply exceeds demand, plan and undertake trade promotion with existing customers; selected consumer promotion implemented in conjunction with Regional Cuisine Program and perhaps other growers or grower groups may also be desirable. Seek outside assistance with promotion by way of joint promotions with other businesses and from government schemes (local, state and Commonwealth).

Individual growers critically analyse their business operations and initiate action for increasing production volume and economies of scale according to their needs and capability; farmers should identify the leases, products and customers which are most profitable. Some training on financial management may be advisable or outside assistance may be required by some growers; this can be accessed via Farm Bi\$. This and other training needs of oyster growers in general are discussed in the box at the end of this section.

Individual growers and the Study Group monitor developments and trends in oyster production, processing, sales and consumption to keep abreast of the market environment. The Study Group may investigate the feasibility of purchasing innovative packaging to differentiate its products at this time.

Study Group examines the feasibility of aligning itself with other growers or group of growers to enhance the supply capability: ie attain even greater annual volume, and

complementary supply when Nambucca-Bellinger output is low or harvest closed due to a rain event or other reason.

Examines the desirability of purchasing an electronic grading machine, of the type detailed in Section 6, to service members and perhaps other growers in the region or further afield. The grading machine could be purchased so that it is transportable and used in the Group's (rented) premises and elsewhere. Table 8.1 below gives an estimate of the operating costs per dozen for this machine at different throughput levels.

Table 8.1 Estimated direct operating costs (purchase, replacement parts and electricity consumption) for an electronic grading machine at different throughput levels.

Sales volume in bags	Cents per dozen
1,500	10.90
3,000	5.45
5,000	3.27
10,000	1.63

These costs are based on the assumption that the machine is purchased outright and written off over a 10 years period. It does not take account of labour costs as the machine would be manned by the individual growers themselves.

Transport costs to the Study Group's plant would also need to be factored into an assessment of the cost benefits to individual growers intending to use a group managed machine.

It would appear from these data that there are considerable labour cost savings to be had if sufficient volume is graded in one episode, because the machine has a capacity of 1200 dozen per hour. However there is also a setting up and cleaning up labour cost to consider which could be substantial for small volumes and so the benefits of machine grading would need to be compared carefully to current operations.

Year Three

The Study Group reviews the QA program and finalises agreement on product specifications so that individual growers can finish their documentation of the program and seek third party auditing at the earliest opportunity.

Review and analyse the single desk selling outcomes, promotion, prices and oyster demand. The group's forecasts on production output and demand should guide the decision making on the desirability of promotion and opportunities for price rises.

If demand continues to exceed supply as the Study Group's throughput increases the group should critically review its customer base and replace tardy payers or difficult customers with new keener ones. It may also choose to invest in further brand promotion with customers and consumers.

If the Study Group is pleased with progress and group dynamics and decides to expand further it should seek outside assistance to develop a new business plan and explore the desirability of incorporation as an oyster marketing business purchasing and/or operating a grading machine from rented premises. It may also be appropriate to re-examine the concept of a centralised processing-marketing facility.

This business review should be comprehensive and take account of developments in oyster cultivation, processing, new products/markets, sales and consumption.

Table 7. Implementation Plan

Strategy	Implementation Tasks	Resources	Responsibilities	Time	Performance Indicators
Start Up	Start up Group & Launch	Funding from Business Enterprise Workshop facilitator Shire Ec. Dev. officers	Group leader & Econom. Dev Officer	ASAP	Funding granted. Workshop gets group agreement on rules M O U signed
	Recruit sales representative	Local search or advertisement	Group Leader	Within 3 months of start	Appointee on job
1. Develop Product Specifications	Workshop develops then circulates interim specs.	Facilitator funded by Bus. Enterprise	Quality Committee leader	Workshop ASAP Specs. within 3 mo.	100% members attendance at workshop Specification sheets issued with 3 months
	Seek R & D funds for project	Funding NSW F; DSRD	Quality Committee leader	Apply within 3 months of start up	Funds granted, project starts within 6 months
	Review specs	All members	Quality Committee leader	After 6 mo. of usage; earlier if needed	100% members participate. Version 2 specs sheet circulated
	Participate in R & D	R & D funds	Quality Ctee leader & Sales Rep	Ongoing	All members actively involved in Pilot Project
2. Upgrade quality	Growers review practices and upgrade product quality	Individual finance & facilities	Individual growers	Review ASAP Upgrade undertaken over 12 months	Average price of crop increases noticeably by end of one year; further increases later on. Positive customer feedback
	Development of QA program	FarmBi\$ funds SQAP manuals Quality Spec. sheets.	Quality committee leader oversees individual efforts	Start within 12 months completed in year 3	All members have a copy of version 1. of QA manual within 6 mo. of commencement Audited in year 3
	Members implement QA	FarmBi\$ funding QA manual	Individual growers	ASAP after manual available	QA records available/submitted with sales manifests to Sales rep.
	Review success of QA program; revise as needed	FarmBi\$ funds All members	Quality committee leader	As needed, at least once per year	QA records complete and up to date; decline in customer complaints; necessary action completed
3. Business Analysis	Members critically analyse their own business	Financial & sales record; Computer software or other tools for analysis. FarmBi\$/Accountant ?	Individual growers	On entry to group. Ongoing; Accountants report at least once a year	Financial and sales summaries up to date, analysed farmers know which leases and customers are best; necessary action initiated. Individual targets being met.
	Group reviews business	Accountancy service Customers feedback data	Group Leader & management committee	Ongoing. Sales Rep. reports twice a year and as needed	Sales results as good as or surpass industry average. Debtors list is satisfactory.

					Group objectives being met
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Implementation Plan (continued).

Strategy	Implementation Tasks	Resources	Responsibilities	Time	Performance Indicators
Business	Examine feasibility of inviting new members	DSRD NSW Fisheries	Sales Rep. & Management Ctee	Year two	Feasibility completed and reported on to members
Analysis	Examine feasibility of purchasing grading machine	Outside funding	Sales Rep. & Management Ctee	Year two	Feasibility completed and reported on to members
(Continued)	Customer review	Debtors list; Sales record	Group Leader & Sales Rep.	Year two and Year Three & As needed	Bad debts < 1% of sales and getting smaller each review. New accounts faster paying.
4. Promotion	Point of Sale promotion with existing customers	Regional Cuisine Program. Govt funding (eg DPIE/AFFA)	Sales Rep & Promo Committee	Year two, if/as needed	Positive feedback from target customers; promotions objectives met
	Generic promo. with oyster industry associations				
	Promotion targeting potential new customers	Regional Cuisine Program. Govt funding (eg DPIE/AFFA) Trade shows Fine Food, RAS Easter etc	Sales Rep & Promo Committee	Year three	New business attained as per promotions objectives

Training Needs For Oyster Growers

General skills

More skilled personnel : The aging of the work force in the industry and difficulties in attracting young people is cited as a problem in the oyster industry. On the job training with TAFE can give young people some formal qualifications (related to oyster growing/aquaculture and food safety), a recognised career path and enhanced status than currently exists.

The training of seafood processing staff is a mandatory part of a Food Safety Program required by Commonwealth and State governments. There are several Commonwealth schemes such as the new Traineeships programs designed to help employers offset costs of staff training; information can be obtained from TAFE or Seafood Training Australia.

Oyster shucking

The pool of experienced oyster shuckers is steadily dwindling and aging and there is already a dearth of expertise particularly at peak demand periods such as Christmas. The shortfall can be addressed with an industry endorsed training scheme which can consist of on the job training managed by TAFE or some other training service provider and assisted financially by commonwealth funding such as the FarmBi\$ program

Financial and management skills

The NSW oyster industry's widespread difficulties in getting prompt and full payment for their product suggests that there is a need for training in financial and general management to give farm owners/managers the skills in better managing their business office, especially sundry debtors list.

Book keeping and computer skills.

The majority of oyster growers in the district are not skilled in computer use and are paying for outside help or expending many hours undertaking routine tasks manually. There are many training programs available on-line or part time via various TAFE campuses which would assist owner-managers and staff undertake their accounting and administrative tasks with greater confidence and speed; many of these are accredited courses which can lead to the issue of formal qualifications.

Greater computer awareness and computer competency skills would also allow more growers to make use of the *Oyster Profit* and other computer software to analyse their business more thoroughly and more frequently and thereby have a better understanding of their profitability.

9. REFERENCES

Lobegeiger R, 2002. Report to farmers. Queensland Aquaculture Production Survey 2000-2001. Qld Dept. Primary Industry. Information Series 02031.

Monford C, 1999. The European Market for bivalves. Globefish Research Report 62. 82pp. Infofish, FAO. Rome.

O'Sullivan D, 2002. Turnaround for Tasea. Austasia Aquaculture 16(4): 41-44.

Ruello & Associates, 1999a. A study of the retail sale and consumption of seafood in Sydney. FRDC Project Report 98/345. Vol 1. Retailer attitudes, sales data, general discussion & conclusions. 173 pp.

Ruello & Associates, 1999b. A study of the retail sale and consumption of seafood in Sydney. FRDC Project Report 98/345. Vol 2. Consumer surveys and focus group findings. 180pp.

SCP Consultants, 1991 A manual of Australian fisheries statistics. FIRDC Report P90/115. 19pp + appendices.

White I, 2001. Safeguarding environmental conditions for oyster cultivation in New South Wales. Report 010801. CRES ANU. 85pp.

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APPENDIX

Appendix 1.

Tasmanian Quality Foods Oyster product information, from web site www.tqf.com.au

Product Specifications for Pacific Oysters

Availability

Due to the geographical spread of Tasmanian Quality Foods' suppliers we are able to supply oysters year round, however supply is limited during spawning periods.

Sizes

Oysters are available in the following sizes:

Bistro = 50-60mm

Buffet = 55-70mm

Standard = 70-85mm

Large = 85-100mm

Jumbo = 100mm +

(sizes are based on top shell measurement)

Product types

Oysters are available live, chilled half shell and frozen half shell.

All Tasmanian Quality Foods shellfish products are packed under our two distinct brands, Heritage Isle and Natural Fresh.

Both brands are available in the following packaging formats:

Poly Box with branded sleeve (airline approved)

3 x 5 dozen boxes containing 2 x 2.5 dozen presentation trays in each box.

2 x 10 dozen boxes containing 4 x 2.5 dozen presentation trays in each box.

1 x 17.5 dozen boxes containing 7 x 2.5 dozen presentation trays in each box.

Recyclable fibre board (not airline approved)

5 dozen box containing 2 x 2.5 dozen presentation trays in each box.

10 dozen box containing 4 x 2.5 dozen presentation trays in each box.

Oyster meats are also available. They are packed for consumer convenience in 2 dozen quantities.

Appendix 2

Profit & Loss and Balance Sheets for various annual throughput levels

Oyster Business - 1,500 bags
Projected Cash Flow
For the Period Ending 30 June 2004

	Total	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04
Operating Cash Receipts													
Income (from Sales Schedule)	186326	0	16939	16939	16939	16939	16939	16939	16939	16939	16939	16939	16939
Other Non-operating Income	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Operating Income	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Income	186326	0	16939	16939	16939	16939	16939	16939	16939	16939	16939	16939	16939
Capital Introduced - Equity	113750	113750	0	0	0	0	0	0	0	0	0	0	0
Loan Funds	341250	341250	0	0	0	0	0	0	0	0	0	0	0
Total Cash Receipts	641326	455000	16939	16939	16939	16939	16939	16939	16939	16939	16939	16939	16939
Operating Cash Payments													
Direct Expenses (from Sales Sche	0	0	0	0	0	0	0	0	0	0	0	0	0
Accountancy/Bank Fees	2500	208	208	208	208	208	208	208	208	208	208	208	208
Consultants/Contractors	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	5000	417	417	417	417	417	417	417	417	417	417	417	417
Employees													
Superannuation	6136	511	511	511	511	511	511	511	511	511	511	511	511
Wages	68182	5682	5682	5682	5682	5682	5682	5682	5682	5682	5682	5682	5682
Workcover	682	57	57	57	57	57	57	57	57	57	57	57	57
Education/Training	0	0	0	0	0	0	0	0	0	0	0	0	0
Fuel & Oils	0	0	0	0	0	0	0	0	0	0	0	0	0
Insurance													
Stock	2000	2000	0	0	0	0	0	0	0	0	0	0	0
Public Liability	6000	6000	0	0	0	0	0	0	0	0	0	0	0
Fire/Burglary	2500	2500	0	0	0	0	0	0	0	0	0	0	0
Machinery Breakdown	1500	1500	0	0	0	0	0	0	0	0	0	0	0
Household	0	0	0	0	0	0	0	0	0	0	0	0	0
Personal Disability	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest													
Loan	26461	2275	2263	2250	2237	2225	2212	2199	2186	2173	2160	2147	2134
Overdraft	2854	0	353	335	317	298	279	260	241	222	203	183	163
Lease Charges	10000	10000	0	0	0	0	0	0	0	0	0	0	0
Legal Expenses	10000	10000	0	0	0	0	0	0	0	0	0	0	0
Licences (inc. Rego. Business Nar	2500	2500	0	0	0	0	0	0	0	0	0	0	0
Lab Supplies/Chemicals	0	0	0	0	0	0	0	0	0	0	0	0	0
Motor Vehicle													
Fuel	4000	333	333	333	333	333	333	333	333	333	333	333	333
Insurance	500	500	0	0	0	0	0	0	0	0	0	0	0
Registration	500	500	0	0	0	0	0	0	0	0	0	0	0
Repairs & Maintenance	2000	167	167	167	167	167	167	167	167	167	167	167	167
Other/Miscellaneous	2500	208	208	208	208	208	208	208	208	208	208	208	208
Packaging Development	10000	10000	0	0	0	0	0	0	0	0	0	0	0
Water	2000	167	167	167	167	167	167	167	167	167	167	167	167
Rent	0	0	0	0	0	0	0	0	0	0	0	0	0
Rep. & Maint.	10000	833	833	833	833	833	833	833	833	833	833	833	833
SQAP	2500	2500	0	0	0	0	0	0	0	0	0	0	0
Telephone	0	0	0	0	0	0	0	0	0	0	0	0	0
Market Development	20000	1667	1667	1667	1667	1667	1667	1667	1667	1667	1667	1667	1667
Mktng & QA System D'ment	12000	12000	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	212315	72525	12866	12835	12804	12773	12741	12709	12677	12645	12613	12580	12547
Non-Operating Cash Payments													
Drawings	0	0	0	0	0	0	0	0	0	0	0	0	0
Fixtures & Fittings	7000	7000	0	0	0	0	0	0	0	0	0	0	0
Motor Vehicle	30000	30000	0	0	0	0	0	0	0	0	0	0	0
Land & Buildings	259000	259000	0	0	0	0	0	0	0	0	0	0	0
Plant & Equipment	127000	127000	0	0	0	0	0	0	0	0	0	0	0
Principal Repayment - Loans	23223	1865	1878	1890	1903	1916	1928	1941	1954	1967	1980	1993	2007
Tax Payable	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	446223	424865	1878	1890	1903	1916	1928	1941	1954	1967	1980	1993	2007
Total Cash Payments	658538	497390	14744	14725	14707	14688	14669	14651	14632	14612	14593	14573	14554
Net Cash Flow	(17212)	(42390)	2195	2213	2232	2251	2269	2288	2307	2326	2346	2365	2385
Opening Bank Balance	0	0	(42390)	(40195)	(37982)	(35750)	(33499)	(31230)	(28942)	(26635)	(24308)	(21962)	(19597)
Add/Subtract Net Cash Flow	(17212)	(42390)	2195	2213	2232	2251	2269	2288	2307	2326	2346	2365	2385
Closing Bank Balance	(17212)	(42390)	(40195)	(37982)	(35750)	(33499)	(31230)	(28942)	(26635)	(24308)	(21962)	(19597)	(17212)

Oyster Business - 1,500 bags
Projected Cash Flow
For the Period Ending 30 June 2013

	Total	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun
Operating Cash Receipts					
Income (from Sales Schedule)	264571	65660	66304	66304	66304
Other Non-operating Income	0	0	0	0	0
Other Operating Income	0	0	0	0	0
Total Income	264571	65660	66304	66304	66304
Capital Introduced - Equity	0	0	0	0	0
Loan Funds	0	0	0	0	0
Total Cash Receipts	264571	65660	66304	66304	66304
Operating Cash Payments					
Direct Expenses	0	0	0	0	0
Accountancy/Bank Fees	3167	792	792	792	792
Consultants/Contractors	0	0	0	0	0
Electricity	6334	1583	1583	1583	1583
Employees					
Superannuation	8007	2002	2002	2002	2002
Wages	88962	22241	22241	22241	22241
Workcover	890	222	222	222	222
Education/Training	0	0	0	0	0
Fuel & Oils	0	0	0	0	0
Insurance					
Stock	10134	2534	2534	2534	2534
Public Liability	1267	317	317	317	317
Fire/Burglary	1267	317	317	317	317
Machinery Breakdown	1267	317	317	317	317
Household	0	0	0	0	0
Personal Disability	1267	317	317	317	317
Interest					
Loan	2088	875	643	406	164
Overdraft	0	0	0	0	0
Lease Charges	12668	3167	3167	3167	3167
Legal Expenses	0	0	0	0	0
Licences (inc. Rego. Business Nam	3167	792	792	792	792
Lab Supplies/Chemicals	0	0	0	0	0
Motor Vehicle					
Fuel	5067	1267	1267	1267	1267
Insurance	633	158	158	158	158
Registration	633	158	158	158	158
Repairs & Maintenance	2534	633	633	633	633
Other/Miscellaneous	3167	792	792	792	792
Packaging Development	0	0	0	0	0
Water	2534	633	633	633	633
Rent	0	0	0	0	0
Rep. & Maint.	12668	3167	3167	3167	3167
SQAP	3167	792	792	792	792
Telephone	0	0	0	0	0
Market Development	25335	6334	6334	6334	6334
Mkting & QA System D'ment	0	0	0	0	0
0	0	0	0	0	0
Total	196220	49408	49176	48939	48697
Non-Operating Cash Payments					
Drawings	0	0	0	0	0
Fixtures & Fittings	0	0	0	0	0
Motor Vehicle	0	0	0	0	0
Land & Buildings	0	0	0	0	0
Plant & Equipment	0	0	0	0	0
Principal Repayment - Loans	47596	11546	11778	12015	12257
Tax Payable	15957	3989	3989	3989	3989
Total	63553	15535	15767	16005	16246
Total Cash Payments	259774	64943	64943	64943	64943
Net Cash Flow	4797	716	1360	1360	1360
Opening Bank Balance	41088	41088	41805	43165	44525
Add/Subtract Net Cash Flow	4797	716	1360	1360	1360
Closing Bank Balance	45885	41805	43165	44525	45885

Oyster Business - 1,500 bags
Projected Profit & Loss Statement
For the Ten Years Ending 30-6-2013

	12 Months									
	30 Jun 04	30 Jun 05	30 Jun 06	30 Jun 07	30 Jun 08	30 Jun 09	30 Jun 10	30 Jun 11	30 Jun 12	30 Jun 13
Income										
Sales	203265	209363	215644	222113	228777	235640	242709	249990	257490	265215
Less Cost of Sales										
Opening Stock	0	0	0	0	0	0	0	0	0	0
Add - Direct Costs	0	0	0	0	0	0	0	0	0	0
Less Closing Stock	0	0	0	0	0	0	0	0	0	0
Total Cost of Sales	0	0	0	0	0	0	0	0	0	0
Gross Profit	203265	209363	215644	222113	228777	235640	242709	249990	257490	265215
Gross Profit Margin	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Other Income										
Other Non-operating Income	0	0	0	0	0	0	0	0	0	0
Other Operating Income	0	0	0	0	0	0	0	0	0	0
Total Other Income	0	0	0	0	0	0	0	0	0	0
Less Expenses										
Accountancy/Bank Fees	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Consultants/Contractors	0	0	0	0	0	0	0	0	0	0
Electricity	5000	5000	5150	5305	5464	5628	5796	5970	6149	6334
Employees										
Superannuation	6136	6320	6510	6705	6907	7114	7327	7547	7773	8007
Wages	68182	70227	72334	74504	76739	79042	81413	83855	86371	88962
Workcover	682	702	723	745	767	790	814	839	864	890
Education/Training	0	0	0	0	0	0	0	0	0	0
Fuel & Oils	0	0	0	0	0	0	0	0	0	0
Insurance										
Stock	2000	8000	8240	8487	8742	9004	9274	9552	9839	10134
Public Liability	6000	1000	1030	1061	1093	1126	1159	1194	1230	1267
Fire/Burglary	2500	1000	1030	1061	1093	1126	1159	1194	1230	1267
Machinery Breakdown	1500	1000	1030	1061	1093	1126	1159	1194	1230	1267
Household	0	0	0	0	0	0	0	0	0	0
Personal Disability	0	1000	1030	1061	1093	1126	1159	1194	1230	1267
Interest										
Loan	26461	24533	22446	20185	17737	15085	12213	9103	5735	2088
Overdraft	2854	2905	1205	477	0	907	218	0	0	0
Lease Charges	10000	10000	10300	10609	10927	11255	11593	11941	12299	12668
Legal Expenses	10000	0	0	0	0	0	0	0	0	0
Licences (inc. Rego. Business Name)	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Lab Supplies/Chemicals	0	0	0	0	0	0	0	0	0	0
Motor Vehicle										
Fuel	4000	4000	4120	4244	4371	4502	4637	4776	4919	5067
Insurance	500	500	515	530	546	563	580	597	615	633
Registration	500	500	515	530	546	563	580	597	615	633
Repairs & Maintenance	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Other/Miscellaneous	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Packaging Development	10000	0	0	0	0	0	0	0	0	0
Water	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Rent	0	0	0	0	0	0	0	0	0	0
Rep. & Maint.	10000	10000	10300	10609	10927	11255	11593	11941	12299	12668
SQAP	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Telephone	0	0	0	0	0	0	0	0	0	0
Market Development	20000	20000	20600	21218	21855	22510	23185	23881	24597	25335
Mkting & QA System D'ment	12000	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
Depreciation										
Plant & Equipment	24417	20339	20350	20350	20350	18119	1820	1255	0	0
Fixtures & Fittings	1193	1190	1190	1190	1190	2237	0	0	0	0
Land & Buildings	12985	12950	12950	12950	12950	12950	12950	12950	12950	12950
Motor Vehicles	6016	6000	6000	6000	5984	6000	6000	6000	6000	6000
Total Expenses	256927	221167	221988	223735	226718	225546	210860	212297	213164	215170
Operating Profit (Loss) Before Tax	(53662)	(11804)	(6344)	(1622)	2059	10094	31849	37693	44326	50044
Taxable Profit (Excluding Private Use)	(53662)	(11804)	(6344)	(1622)	2059	10094	31849	37693	44326	50044
Less Tax Expense	0	0	0	0	0	0	0	2975	15957	18016
Profit (Loss) After Tax Before Drawings	(53662)	(11804)	(6344)	(1622)	2059	10094	31849	34719	28369	32028
Breakeven Year	Year5									

Oyster Business - 1,500 bags
Projected Balance Sheet
For the Ten Years Ending 30-6-2013

	12 Months									
	30 Jun 04	30 Jun 05	30 Jun 06	30 Jun 07	30 Jun 08	30 Jun 09	30 Jun 10	30 Jun 11	30 Jun 12	30 Jun 13
Current Assets										
Cash at Bank	0	0	0	1020	12097	0	8649	25360	41088	45885
Debtors	16939	17447	17970	18509	19065	19637	20226	20833	21458	22101
Stock	0	0	0	0	0	0	0	0	0	0
Total	16939	17447	17970	19529	31161	19637	28875	46192	62546	67987
Non-Current Assets										
Fixtures & Fittings	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
Less Accumulated Depreciation	1193	2383	3573	4763	7000	7000	7000	7000	7000	7000
	5807	4617	3427	2237	0	0	0	0	0	0
Land & Buildings	259000	259000	259000	259000	259000	259000	259000	259000	259000	259000
Less Accumulated Amortisation	12985	25935	38885	51835	64785	77735	90685	103635	116585	129535
	246015	233065	220115	207165	194215	181265	168315	155365	142415	129465
Motor Vehicles	30000	30000	30000	30000	30000	60000	60000	60000	60000	60000
Less Accumulated Depreciation	6016	12016	18016	24016	30000	36000	42000	48000	54000	60000
	23984	17984	11984	5984	0	24000	18000	12000	6000	0
Plant & Equipment	127000	127000	127000	127000	127000	127000	127000	127000	127000	127000
Less Accumulated Depreciation	24417	44756	65106	85456	105806	123925	125745	127000	127000	127000
	102583	82244	61894	41544	21194	3075	1255	0	0	0
Total	378388	337909	297419	256929	215409	208340	187570	167365	148415	129465
TOTAL ASSETS	395327	355356	315389	276458	246570	227976	216444	213557	210960	197451
Current Liabilities										
Overdraft	17212	14195	7811	0	0	5911	0	0	0	0
Creditors	0	0	0	0	0	0	0	0	0	0
Provision for Tax	0	0	0	0	0	0	0	2975	15957	18016
Loans	25150	27238	29499	31947	34599	37470	40580	43948	47596	0
Total	42362	41433	37309	31947	34599	43381	40580	46923	63553	18016
Non-Current Liabilities										
Loans	292877	265639	236140	204193	169595	132125	91544	47596	0	0
Total	292877	265639	236140	204193	169595	132125	91544	47596	0	0
Total Liabilities	335239	307072	273450	236140	204193	175505	132125	94519	63553	18016
Proprietor's/Partners' Capital										
Capital Introduced	113750	113750	113750	113750	113750	113750	113750	113750	113750	113750
Accumulated Profits/Losses	(53662)	(65466)	(71810)	(73432)	(71373)	(61279)	(29430)	5288	33657	65685
Less Accumulated Drawings	0	0	0	0	0	0	0	0	0	0
Total Funds	60088	48284	41940	40318	42377	52471	84320	119038	147407	179435
TOTAL LIABILITIES & FUNDS	395327	355356	315389	276458	246570	227976	216444	213557	210960	197451

**Oyster Business - 1,000 bags
Projected Profit & Loss Statement
For the Ten Years Ending 30-6-2013**

	12 Months									
	30 Jun 04	30 Jun 05	30 Jun 06	30 Jun 07	30 Jun 08	30 Jun 09	30 Jun 10	30 Jun 11	30 Jun 12	30 Jun 13
Income										
Sales	203270	209368	215649	222119	228782	235646	242715	249996	257496	265221
Less Cost of Sales										
Opening Stock	0	0	0	0	0	0	0	0	0	0
Add - Direct Costs	0	0	0	0	0	0	0	0	0	0
Less Closing Stock	0	0	0	0	0	0	0	0	0	0
Total Cost of Sales	0	0	0	0	0	0	0	0	0	0
Gross Profit	203270	209368	215649	222119	228782	235646	242715	249996	257496	265221
Gross Profit Margin	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Other Income										
Other Non-operating Income	0	0	0	0	0	0	0	0	0	0
Other Operating Income	0	0	0	0	0	0	0	0	0	0
Total Other Income	0	0	0	0	0	0	0	0	0	0
Less Expenses										
Accountancy/Bank Fees	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Consultants/Contractors	0	0	0	0	0	0	0	0	0	0
Electricity	5000	5000	5150	5305	5464	5628	5796	5970	6149	6334
Employees										
Superannuation	6136	6320	6510	6705	6907	7114	7327	7547	7773	8007
Wages	68182	70227	72334	74504	76739	79042	81413	83855	86371	88962
Workcover	682	702	723	745	767	790	814	839	864	890
Education/Training	0	0	0	0	0	0	0	0	0	0
Fuel & Oils	0	0	0	0	0	0	0	0	0	0
Insurance										
Stock	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Public Liability	6000	6000	6180	6365	6556	6753	6956	7164	7379	7601
Fire/Burglary	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Machinery Breakdown	1500	1500	1545	1591	1639	1688	1739	1791	1845	1900
Household	0	0	0	0	0	0	0	0	0	0
Personal Disability	0	0	0	0	0	0	0	0	0	0
Interest										
Loan	26461	24533	22446	20185	17737	15085	12213	9103	5735	2088
Overdraft	2854	2904	1203	475	0	904	216	0	0	0
Lease Charges	10000	10000	10300	10609	10927	11255	11593	11941	12299	12668
Legal Expenses	10000	0	0	0	0	0	0	0	0	0
Licences (inc. Rego. Business Name)	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Lab Supplies/Chemicals	0	0	0	0	0	0	0	0	0	0
Motor Vehicle										
Fuel	4000	4000	4120	4244	4371	4502	4637	4776	4919	5067
Insurance	500	500	515	530	546	563	580	597	615	633
Registration	500	500	515	530	546	563	580	597	615	633
Repairs & Maintenance	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Other/Miscellaneous	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Packaging Development	10000	0	0	0	0	0	0	0	0	0
Water	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Rent	0	0	0	0	0	0	0	0	0	0
Rep. & Maint.	10000	10000	10300	10609	10927	11255	11593	11941	12299	12668
SQAP	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Telephone	0	0	0	0	0	0	0	0	0	0
Market Development	20000	20000	20600	21218	21855	22510	23185	23881	24597	25335
Mktng & QA System D'ment	12000	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
Depreciation										
Plant & Equipment	24417	20339	20350	20350	20350	18119	1820	1255	0	0
Fixtures & Fittings	1193	1190	1190	1190	2237	0	0	0	0	0
Land & Buildings	12985	12950	12950	12950	12950	12950	12950	12950	12950	12950
Motor Vehicles	6016	6000	6000	6000	5984	6000	6000	6000	6000	6000
Total Expenses	256927	221166	221987	223733	226718	225543	210858	212297	213164	215170
Operating Profit (Loss) Before Tax	(53657)	(11798)	(6338)	(1614)	2065	10102	31857	37699	44333	50051
Taxable Profit (Excluding Private Use)	(53657)	(11798)	(6338)	(1614)	2065	10102	31857	37699	44333	50051
Less Tax Expense	0	0	0	0	0	0	0	2994	15960	18018
Profit (Loss) After Tax Before Drawings	(53657)	(11798)	(6338)	(1614)	2065	10102	31857	34706	28373	32033
Breakeven Year	Year5									

Oyster Business - 1,000 bags
Projected Balance Sheet
For the Ten Years Ending 30-6-2013

	12 Months									
	30 Jun 04	30 Jun 05	30 Jun 06	30 Jun 07	30 Jun 08	30 Jun 09	30 Jun 10	30 Jun 11	30 Jun 12	30 Jun 13
Current Assets										
Cash at Bank	0	0	0	1044	12127	0	8695	25413	41128	45930
Debtors	16939	17447	17971	18510	19065	19637	20226	20833	21458	22102
Stock	0	0	0	0	0	0	0	0	0	0
Total	16939	17447	17971	19554	31192	19637	28922	46246	62586	68031
Non-Current Assets										
Fixtures & Fittings	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
Less Accumulated Depreciation	1193	2383	3573	4763	7000	7000	7000	7000	7000	7000
	5807	4617	3427	2237	0	0	0	0	0	0
Land & Buildings	259000	259000	259000	259000	259000	259000	259000	259000	259000	259000
Less Accumulated Amortisation	12985	25935	38885	51835	64785	77735	90685	103635	116585	129535
	246015	233065	220115	207165	194215	181265	168315	155365	142415	129465
Motor Vehicles	30000	30000	30000	30000	30000	60000	60000	60000	60000	60000
Less Accumulated Depreciation	6016	12016	18016	24016	30000	36000	42000	48000	54000	60000
	23984	17984	11984	5984	0	24000	18000	12000	6000	0
Plant & Equipment	127000	127000	127000	127000	127000	127000	127000	127000	127000	127000
Less Accumulated Depreciation	24417	44756	65106	85456	105806	123925	125745	127000	127000	127000
	102583	82244	61894	41544	21194	3075	1255	0	0	0
Total	378388	337909	297419	256929	215409	208340	187570	167365	148415	129465
TOTAL ASSETS	395327	355356	315390	276483	246601	227977	216491	213610	211001	197496
Current Liabilities										
Overdraft	17207	14185	7794	0	0	5872	0	0	0	0
Creditors	0	0	0	0	0	0	0	0	0	0
Provision for Tax	0	0	0	0	0	0	2994	15960	18018	18018
Loans	25150	27238	29499	31947	34599	37470	40580	43948	47596	0
Total	42357	41422	37292	31947	34599	43342	40580	46942	63556	18018
Non-Current Liabilities										
Loans	292877	265639	236140	204193	169595	132125	91544	47596	0	0
Total	292877	265639	236140	204193	169595	132125	91544	47596	0	0
Total Liabilities	335234	307061	273432	236140	204193	175467	132125	94538	63556	18018
Proprietor's/Partners' Capital										
Capital Introduced	113750	113750	113750	113750	113750	113750	113750	113750	113750	113750
Accumulated Profits/Losses	(53657)	(65455)	(71793)	(73407)	(71342)	(61240)	(29383)	5322	33695	65728
Less Accumulated Drawings	0	0	0	0	0	0	0	0	0	0
Total Funds	60093	48295	41957	40343	42408	52510	84367	119072	147445	179478
TOTAL LIABILITIES & FUNDS	395327	355356	315390	276483	246601	227977	216491	213610	211001	197496

**Oyster Business - 3,000 bags
Projected Profit & Loss Statement
For the Ten Years Ending 30-6-2013**

	12 Months									
	30 Jun 04	30 Jun 05	30 Jun 06	30 Jun 07	30 Jun 08	30 Jun 09	30 Jun 10	30 Jun 11	30 Jun 12	30 Jun 13
Income										
Sales	203280	209378	215660	222130	228793	235657	242727	250009	257509	265234
Less Cost of Sales										
Opening Stock	0	0	0	0	0	0	0	0	0	0
Add - Direct Costs	0	0	0	0	0	0	0	0	0	0
Less Closing Stock	0	0	0	0	0	0	0	0	0	0
Total Cost of Sales	0	0	0	0	0	0	0	0	0	0
Gross Profit	203280	209378	215660	222130	228793	235657	242727	250009	257509	265234
Gross Profit Margin	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Other Income										
Other Non-operating Income	0	0	0	0	0	0	0	0	0	0
Other Operating Income	0	0	0	0	0	0	0	0	0	0
Total Other Income	0	0	0	0	0	0	0	0	0	0
Less Expenses										
Accountancy/Bank Fees	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Consultants/Contractors	0	0	0	0	0	0	0	0	0	0
Electricity	5000	5000	5150	5305	5464	5628	5796	5970	6149	6334
Employees										
Superannuation	6136	6320	6510	6705	6907	7114	7327	7547	7773	8007
Wages	68182	70227	72334	74504	76739	79042	81413	83855	86371	88962
Workcover	682	702	723	745	767	790	814	839	864	890
Education/Training	0	0	0	0	0	0	0	0	0	0
Fuel & Oils	0	0	0	0	0	0	0	0	0	0
Insurance										
Stock	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Public Liability	6000	6000	6180	6365	6556	6753	6956	7164	7379	7601
Fire/Burglary	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Machinery Breakdown	1500	1500	1545	1591	1639	1688	1739	1791	1845	1900
Household	0	0	0	0	0	0	0	0	0	0
Personal Disability	0	0	0	0	0	0	0	0	0	0
Interest										
Loan	26461	24533	22446	20185	17737	15085	12213	9103	5735	2088
Overdraft	2853	2902	1201	471	0	899	212	0	0	0
Lease Charges	10000	10000	10300	10609	10927	11255	11593	11941	12299	12668
Legal Expenses	10000	0	0	0	0	0	0	0	0	0
Licences (inc. Rego. Business Name)	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Lab Supplies/Chemicals	0	0	0	0	0	0	0	0	0	0
Motor Vehicle										
Fuel	4000	4000	4120	4244	4371	4502	4637	4776	4919	5067
Insurance	500	500	515	530	546	563	580	597	615	633
Registration	500	500	515	530	546	563	580	597	615	633
Repairs & Maintenance	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Other/Miscellaneous	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Packaging Development	10000	0	0	0	0	0	0	0	0	0
Water	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Rent	0	0	0	0	0	0	0	0	0	0
Rep. & Maint.	10000	10000	10300	10609	10927	11255	11593	11941	12299	12668
SQAP	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Telephone	0	0	0	0	0	0	0	0	0	0
Market Development	20000	20000	20600	21218	21855	22510	23185	23881	24597	25335
Mktng & QA System D'ment	12000	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
Depreciation										
Plant & Equipment	24417	20339	20350	20350	20350	18119	1820	1255	0	0
Fixtures & Fittings	1193	1190	1190	1190	2237	0	0	0	0	0
Land & Buildings	12985	12950	12950	12950	12950	12950	12950	12950	12950	12950
Motor Vehicles	6016	6000	6000	6000	5984	6000	6000	6000	6000	6000
Total Expenses	256926	221165	221984	223729	226718	225538	210854	212297	213164	215170
Operating Profit (Loss) Before Tax	(53646)	(11786)	(6324)	(1600)	2076	10119	31873	37712	44345	50064
Taxable Profit (Excluding Private Use)	(53646)	(11786)	(6324)	(1600)	2076	10119	31873	37712	44345	50064
Less Tax Expense	0	0	0	0	0	0	0	3032	15964	18023
Profit (Loss) After Tax Before Drawings	(53646)	(11786)	(6324)	(1600)	2076	10119	31873	34679	28381	32041
Breakeven Year	Year5									

Oyster Business - 3,000 bags
Projected Balance Sheet
For the Ten Years Ending 30-6-2013

	12 Months									
	30 Jun 04	30 Jun 05	30 Jun 06	30 Jun 07	30 Jun 08	30 Jun 09	30 Jun 10	30 Jun 11	30 Jun 12	30 Jun 13
Current Assets										
Cash at Bank	0	0	0	1094	12188	0	8789	25518	41208	46018
Debtors	16940	17448	17972	18511	19066	19638	20227	20834	21459	22103
Stock	0	0	0	0	0	0	0	0	0	0
Total	16940	17448	17972	19605	31254	19638	29016	46352	62667	68121
Non-Current Assets										
Fixtures & Fittings	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
Less Accumulated Depreciation	1193	2383	3573	4763	7000	7000	7000	7000	7000	7000
	5807	4617	3427	2237	0	0	0	0	0	0
Land & Buildings	259000	259000	259000	259000	259000	259000	259000	259000	259000	259000
Less Accumulated Amortisation	12985	25935	38885	51835	64785	77735	90685	103635	116585	129535
	246015	233065	220115	207165	194215	181265	168315	155365	142415	129465
Motor Vehicles	30000	30000	30000	30000	30000	60000	60000	60000	60000	60000
Less Accumulated Depreciation	6016	12016	18016	24016	30000	36000	42000	48000	54000	60000
	23984	17984	11984	5984	0	24000	18000	12000	6000	0
Plant & Equipment	127000	127000	127000	127000	127000	127000	127000	127000	127000	127000
Less Accumulated Depreciation	24417	44756	65106	85456	105806	123925	125745	127000	127000	127000
	102583	82244	61894	41544	21194	3075	1255	0	0	0
Total	378388	337909	297419	256929	215409	208340	187570	167365	148415	129465
TOTAL ASSETS	395328	355357	315391	276534	246662	227978	216585	213717	211082	197585
Current Liabilities										
Overdraft	17197	14163	7759	0	0	5795	0	0	0	0
Creditors	0	0	0	0	0	0	0	0	0	0
Provision for Tax	0	0	0	0	0	0	0	3032	15964	18023
Loans	25150	27238	29499	31947	34599	37470	40580	43948	47596	0
Total	42348	41401	37258	31947	34599	43265	40580	46980	63560	18023
Non-Current Liabilities										
Loans	292877	265639	236140	204193	169595	132125	91544	47596	0	0
Total	292877	265639	236140	204193	169595	132125	91544	47596	0	0
Total Liabilities	335224	307040	273398	236140	204193	175389	132125	94576	63560	18023
Proprietor's/Partners' Capital										
Capital Introduced	113750	113750	113750	113750	113750	113750	113750	113750	113750	113750
Accumulated Profits/Losses	(53646)	(65433)	(71757)	(73357)	(71281)	(61162)	(29289)	5390	33771	65812
Less Accumulated Drawings	0	0	0	0	0	0	0	0	0	0
Total Funds	60104	48317	41993	40393	42469	52588	84461	119140	147521	179562
TOTAL LIABILITIES & FUNDS	395328	355357	315391	276534	246662	227978	216585	213717	211082	197585

Oyster Business - 5,000 bags
Projected Profit & Loss Statement
For the Ten Years Ending 30-6-2013

	12 Months									
	30 Jun 04	30 Jun 05	30 Jun 06	30 Jun 07	30 Jun 08	30 Jun 09	30 Jun 10	30 Jun 11	30 Jun 12	30 Jun 13
Income										
Sales	203300	209399	215681	222151	228816	235680	242751	250033	257534	265260
Less Cost of Sales										
Opening Stock	0	0	0	0	0	0	0	0	0	0
Add - Direct Costs	0	0	0	0	0	0	0	0	0	0
Less Closing Stock	0	0	0	0	0	0	0	0	0	0
Total Cost of Sales	0	0	0	0	0	0	0	0	0	0
Gross Profit	203300	209399	215681	222151	228816	235680	242751	250033	257534	265260
Gross Profit Margin	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Other Income										
Other Non-operating Income	0	0	0	0	0	0	0	0	0	0
Other Operating Income	0	0	0	0	0	0	0	0	0	0
Total Other Income	0	0	0	0	0	0	0	0	0	0
Less Expenses										
Accountancy/Bank Fees	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Consultants/Contractors	0	0	0	0	0	0	0	0	0	0
Electricity	5000	5000	5150	5305	5464	5628	5796	5970	6149	6334
Employees										
Superannuation	6136	6320	6510	6705	6907	7114	7327	7547	7773	8007
Wages	68182	70227	72334	74504	76739	79042	81413	83855	86371	88962
Workcover	682	702	723	745	767	790	814	839	864	890
Education/Training	0	0	0	0	0	0	0	0	0	0
Fuel & Oils	0	0	0	0	0	0	0	0	0	0
Insurance										
Stock	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Public Liability	6000	6000	6180	6365	6556	6753	6956	7164	7379	7601
Fire/Burglary	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Machinery Breakdown	1500	1500	1545	1591	1639	1688	1739	1791	1845	1900
Household	0	0	0	0	0	0	0	0	0	0
Personal Disability	0	0	0	0	0	0	0	0	0	0
Interest										
Loan	26461	24533	22446	20185	17737	15085	12213	9103	5735	2088
Overdraft	2853	2899	1195	463	0	889	204	0	0	0
Lease Charges	10000	10000	10300	10609	10927	11255	11593	11941	12299	12668
Legal Expenses	10000	0	0	0	0	0	0	0	0	0
Licences (inc. Rego. Business Name)	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Lab Supplies/Chemicals	0	0	0	0	0	0	0	0	0	0
Motor Vehicle										
Fuel	4000	4000	4120	4244	4371	4502	4637	4776	4919	5067
Insurance	500	500	515	530	546	563	580	597	615	633
Registration	500	500	515	530	546	563	580	597	615	633
Repairs & Maintenance	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Other/Miscellaneous	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Packaging Development	10000	0	0	0	0	0	0	0	0	0
Water	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Rent	0	0	0	0	0	0	0	0	0	0
Rep. & Maint.	10000	10000	10300	10609	10927	11255	11593	11941	12299	12668
SQAP	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Telephone	0	0	0	0	0	0	0	0	0	0
Market Development	20000	20000	20600	21218	21855	22510	23185	23881	24597	25335
Mktg & QA System D'ment	12000	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
Depreciation										
Plant & Equipment	24417	20339	20350	20350	20350	18119	1820	1255	0	0
Fixtures & Fittings	1193	1190	1190	1190	2237	0	0	0	0	0
Land & Buildings	12985	12950	12950	12950	12950	12950	12950	12950	12950	12950
Motor Vehicles	6016	6000	6000	6000	5984	6000	6000	6000	6000	6000
Total Expenses	256926	221162	221979	223721	226718	225528	210846	212297	213164	215170
Operating Profit (Loss) Before Tax	(53626)	(11763)	(6298)	(1570)	2098	10153	31904	37736	44371	50090
Taxable Profit (Excluding Private Use)	(53626)	(11763)	(6298)	(1570)	2098	10153	31904	37736	44371	50090
Less Tax Expense	0	0	0	0	0	0	0	3109	15973	18032
Profit (Loss) After Tax Before Drawings	(53626)	(11763)	(6298)	(1570)	2098	10153	31904	34627	28397	32058
Breakeven Year	Year5									

Oyster Business - 5,000 bags
Projected Balance Sheet
For the Ten Years Ending 30-6-2013

	12 Months									
	30 Jun 04	30 Jun 05	30 Jun 06	30 Jun 07	30 Jun 08	30 Jun 09	30 Jun 10	30 Jun 11	30 Jun 12	30 Jun 13
Current Assets										
Cash at Bank	0	0	0	1193	12309	0	8975	25729	41368	46194
Debtors	16942	17450	17973	18513	19068	19640	20229	20836	21461	22105
Stock	0	0	0	0	0	0	0	0	0	0
Total	16942	17450	17973	19705	31377	19640	29204	46565	62829	68299
Non-Current Assets										
Fixtures & Fittings	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
Less Accumulated Depreciation	1193	2383	3573	4763	7000	7000	7000	7000	7000	7000
	5807	4617	3427	2237	0	0	0	0	0	0
Land & Buildings	259000	259000	259000	259000	259000	259000	259000	259000	259000	259000
Less Accumulated Amortisation	12985	25935	38885	51835	64785	77735	90685	103635	116585	129535
	246015	233065	220115	207165	194215	181265	168315	155365	142415	129465
Motor Vehicles	30000	30000	30000	30000	30000	60000	60000	60000	60000	60000
Less Accumulated Depreciation	6016	12016	18016	24016	30000	36000	42000	48000	54000	60000
	23984	17984	11984	5984	0	24000	18000	12000	6000	0
Plant & Equipment	127000	127000	127000	127000	127000	127000	127000	127000	127000	127000
Less Accumulated Depreciation	24417	44756	65106	85456	105806	123925	125745	127000	127000	127000
	102583	82244	61894	41544	21194	3075	1255	0	0	0
Total	378388	337909	297419	256929	215409	208340	187570	167365	148415	129465
TOTAL ASSETS	395330	355359	315392	276634	246786	227980	216774	213930	211243	197764
Current Liabilities										
Overdraft	17178	14121	7690	0	0	5640	0	0	0	0
Creditors	0	0	0	0	0	0	0	0	0	0
Provision for Tax	0	0	0	0	0	0	0	3109	15973	18032
Loans	25150	27238	29499	31947	34599	37470	40580	43948	47596	0
Total	42329	41359	37189	31947	34599	43110	40580	47057	63569	18032
Non-Current Liabilities										
Loans	292877	265639	236140	204193	169595	132125	91544	47596	0	0
Total	292877	265639	236140	204193	169595	132125	91544	47596	0	0
Total Liabilities	335205	306997	273329	236140	204193	175235	132125	94653	63569	18032
Proprietor's/Partners' Capital										
Capital Introduced	113750	113750	113750	113750	113750	113750	113750	113750	113750	113750
Accumulated Profits/Losses	(53626)	(65388)	(71686)	(73256)	(71158)	(61005)	(29101)	5527	33924	65981
Less Accumulated Drawings	0	0	0	0	0	0	0	0	0	0
Total Funds	60124	48362	42064	40494	42592	52745	84649	119277	147674	179731
TOTAL LIABILITIES & FUNDS	395330	355359	315392	276634	246786	227980	216774	213930	211243	197764

**Oyster Business - 10,000 bags
Projected Profit & Loss Statement
For the Ten Years Ending 30-6-2013**

	12 Months									
	30 Jun 04	30 Jun 05	30 Jun 06	30 Jun 07	30 Jun 08	30 Jun 09	30 Jun 10	30 Jun 11	30 Jun 12	30 Jun 13
Income										
Sales	203300	209399	215681	222151	228816	235680	242751	250033	257534	265260
Less Cost of Sales										
Opening Stock	0	0	0	0	0	0	0	0	0	0
Add - Direct Costs	0	0	0	0	0	0	0	0	0	0
Less Closing Stock	0	0	0	0	0	0	0	0	0	0
Total Cost of Sales	0	0	0	0	0	0	0	0	0	0
Gross Profit	203300	209399	215681	222151	228816	235680	242751	250033	257534	265260
Gross Profit Margin	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Other Income										
Other Non-operating Income	0	0	0	0	0	0	0	0	0	0
Other Operating Income	0	0	0	0	0	0	0	0	0	0
Total Other Income	0	0	0	0	0	0	0	0	0	0
Less Expenses										
Accountancy/Bank Fees	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Consultants/Contractors	0	0	0	0	0	0	0	0	0	0
Electricity	5000	5000	5150	5305	5464	5628	5796	5970	6149	6334
Employees										
Superannuation	6136	6320	6510	6705	6907	7114	7327	7547	7773	8007
Wages	68182	70227	72334	74504	76739	79042	81413	83855	86371	88962
Workcover	682	702	723	745	767	790	814	839	864	890
Education/Training	0	0	0	0	0	0	0	0	0	0
Fuel & Oils	0	0	0	0	0	0	0	0	0	0
Insurance										
Stock	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Public Liability	6000	6000	6180	6365	6556	6753	6956	7164	7379	7601
Fire/Burglary	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Machinery Breakdown	1500	1500	1545	1591	1639	1688	1739	1791	1845	1900
Household	0	0	0	0	0	0	0	0	0	0
Personal Disability	0	0	0	0	0	0	0	0	0	0
Interest										
Loan	26461	24533	22446	20185	17737	15085	12213	9103	5735	2088
Overdraft	2853	2899	1195	463	0	889	204	0	0	0
Lease Charges	10000	10000	10300	10609	10927	11255	11593	11941	12299	12668
Legal Expenses	10000	0	0	0	0	0	0	0	0	0
Licences (inc. Rego. Business Name)	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Lab Supplies/Chemicals	0	0	0	0	0	0	0	0	0	0
Motor Vehicle										
Fuel	4000	4000	4120	4244	4371	4502	4637	4776	4919	5067
Insurance	500	500	515	530	546	563	580	597	615	633
Registration	500	500	515	530	546	563	580	597	615	633
Repairs & Maintenance	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Other/Miscellaneous	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Packaging Development	10000	0	0	0	0	0	0	0	0	0
Water	2000	2000	2060	2122	2185	2251	2319	2388	2460	2534
Rent	0	0	0	0	0	0	0	0	0	0
Rep. & Maint.	10000	10000	10300	10609	10927	11255	11593	11941	12299	12668
SQAP	2500	2500	2575	2652	2732	2814	2898	2985	3075	3167
Telephone	0	0	0	0	0	0	0	0	0	0
Market Development	20000	20000	20600	21218	21855	22510	23185	23881	24597	25335
Mkting & QA System D'ment	12000	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
Depreciation										
Plant & Equipment	24417	20339	20350	20350	20350	18119	1820	1255	0	0
Fixtures & Fittings	1193	1190	1190	1190	2237	0	0	0	0	0
Land & Buildings	12985	12950	12950	12950	12950	12950	12950	12950	12950	12950
Motor Vehicles	6016	6000	6000	6000	5984	6000	6000	6000	6000	6000
Total Expenses	256926	221162	221979	223721	226718	225528	210846	212297	213164	215170
Operating Profit (Loss) Before Tax	(53626)	(11763)	(6298)	(1570)	2098	10153	31904	37736	44371	50090
Taxable Profit (Excluding Private Use)	(53626)	(11763)	(6298)	(1570)	2098	10153	31904	37736	44371	50090
Less Tax Expense	0	0	0	0	0	0	0	3109	15973	18032
Profit (Loss) After Tax Before Drawings	(53626)	(11763)	(6298)	(1570)	2098	10153	31904	34627	28397	32058
Breakeven Year	Year5									

Oyster Business - 10,000 bags
Projected Balance Sheet
For the Ten Years Ending 30-6-2013

	12 Months									
	30 Jun 04	30 Jun 05	30 Jun 06	30 Jun 07	30 Jun 08	30 Jun 09	30 Jun 10	30 Jun 11	30 Jun 12	30 Jun 13
Current Assets										
Cash at Bank	0	0	0	1193	12309	0	8975	25729	41368	46194
Debtors	16942	17450	17973	18513	19068	19640	20229	20836	21461	22105
Stock	0	0	0	0	0	0	0	0	0	0
Total	16942	17450	17973	19705	31377	19640	29204	46565	62829	68299
Non-Current Assets										
Fixtures & Fittings	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
Less Accumulated Depreciation	1193	2383	3573	4763	7000	7000	7000	7000	7000	7000
	5807	4617	3427	2237	0	0	0	0	0	0
Land & Buildings	259000	259000	259000	259000	259000	259000	259000	259000	259000	259000
Less Accumulated Amortisation	12985	25935	38885	51835	64785	77735	90685	103635	116585	129535
	246015	233065	220115	207165	194215	181265	168315	155365	142415	129465
Motor Vehicles	30000	30000	30000	30000	30000	60000	60000	60000	60000	60000
Less Accumulated Depreciation	6016	12016	18016	24016	30000	36000	42000	48000	54000	60000
	23984	17984	11984	5984	0	24000	18000	12000	6000	0
Plant & Equipment	127000	127000	127000	127000	127000	127000	127000	127000	127000	127000
Less Accumulated Depreciation	24417	44756	65106	85456	105806	123925	125745	127000	127000	127000
	102583	82244	61894	41544	21194	3075	1255	0	0	0
Total	378388	337909	297419	256929	215409	208340	187570	167365	148415	129465
TOTAL ASSETS	395330	355359	315392	276634	246786	227980	216774	213930	211243	197764
Current Liabilities										
Overdraft	17178	14121	7690	0	0	5640	0	0	0	0
Creditors	0	0	0	0	0	0	0	0	0	0
Provision for Tax	0	0	0	0	0	0	0	3109	15973	18032
Loans	25150	27238	29499	31947	34599	37470	40580	43948	47596	0
Total	42329	41359	37189	31947	34599	43110	40580	47057	63569	18032
Non-Current Liabilities										
Loans	292877	265639	236140	204193	169595	132125	91544	47596	0	0
Total	292877	265639	236140	204193	169595	132125	91544	47596	0	0
Total Liabilities	335205	306997	273329	236140	204193	175235	132125	94653	63569	18032
Proprietor's/Partners' Capital										
Capital Introduced	113750	113750	113750	113750	113750	113750	113750	113750	113750	113750
Accumulated Profits/Losses	(53626)	(65388)	(71686)	(73256)	(71158)	(61005)	(29101)	5527	33924	65981
Less Accumulated Drawings	0	0	0	0	0	0	0	0	0	0
Total Funds	60124	48362	42064	40494	42592	52745	84649	119277	147674	179731
TOTAL LIABILITIES & FUNDS	395330	355359	315392	276634	246786	227980	216774	213930	211243	197764