

# FACT SHEET



MID NORTH COAST  
REGIONAL DEVELOPMENT BOARD

## Prawn farming On the Mid North Coast



This fact sheet is part of a series providing information on a range of new and emerging agricultural ventures for the NSW Mid North Coast. It provides prospective producers with an initial source of information on an emerging agricultural product, how it is produced, who and where the market is and how to access further information.

The Regional Development Board and the Area Consultative Committee are committed to assisting the growth and profitability of emerging agricultural enterprise on the Mid North Coast and are delivering a range of development initiatives, such as this information sheet series, through their Emerging Industry Development Program.

### Introduction

Aquaculture is one of the fastest growing food production industries worldwide. The global appetite for seafood continues to rise, placing pressure on limited wild fish stocks. As a result, it is estimated that by the year 2010, nearly half of all seafood eaten will be farmed. Australia is well positioned to provide the healthy and sustainable products that global and domestic markets are currently demanding.

The NSW Mid North Coast has the potential to sustain a range of aquaculture enterprises. Prawn farming is one option creating considerable interest in this exciting and innovative industry due to good site availability and a suitable climate. With its broad river valleys and healthy river catchments, the MNC boasts a well-developed infrastructure framework and a readily available labour force, as well as supportive local and state governments. The MNC also offers distinct advantages in relation to the accessibility of domestic markets in Sydney, Newcastle, the Gold Coast and Brisbane and to overseas markets for live, chilled and frozen products.

In 2000, the NSW Government produced the NSW North Coast Sustainable Aquaculture Strategy. This document includes maps of suitable aquaculture sites on the Mid North Coast. A copy of the strategy can be obtained from NSW Fisheries at:  
<http://www.fisheries.nsw.gov.au/aqu/reports/ncas.htm>

### Product – can I sell it?

#### **What product?**

The main species of prawn farmed in Australia, and internationally, is the black tiger prawn (*Penaeus monodon*), which is native to Australian waters. When farmed in Northern NSW, juvenile prawns are stocked in ponds between September and November and harvested in March to April. They mature at approximately 6 months and 30grams in weight.

Other species such as the brown tiger prawn (*Penaeus esculentus*), the eastern king prawn (*Penaeus plebejus*) and the kuruma prawn (*Penaeus japonicus*) have been trialled in NSW but with limited production success.

#### **Where and to whom?**

Black tiger prawns are grown for the restaurant market and wholesale fish markets in Sydney, Melbourne, Canberra, Brisbane and the Gold Coast, and for direct sales through retail outlets.

#### **How big is the market?**

Australian consumption of prawns is about 30,000 tonnes/per annum, of which Australian commercial wild catch fisheries provide around 50%. Imports from South-East Asia account for 40% of this demand whilst the domestic aquaculture industry supplies the remaining 10%.

## Product – can I sell it? (continued)

### **Continuity of supply**

Peaks in prices and seasonal demands (eg Christmas and Easter holiday periods) are often production targets. The Easter market coincides with the harvesting times in New South Wales. Alternatively, other specialist markets such as wholesalers and restaurants may be satisfied by a steady supply of prawns of a certain size.

### **How much money do I get?**

Domestic farmgate prices for black tiger prawns in NSW for the last few years varied between \$11-15.50/kg. Prices vary depending on size, freshness, demand, supply of wild caught prawns and quantity of farmed prawns imported.

### **Production Costs for farmed Prawns**

Depending on value of the Australian dollar and the farm size, the cost of production per kilo is generally between \$7.50-\$11.00 per kilo. This does not include associated marketing and processing costs which can vary between \$1.39-\$2.50/kg.

## Market – how do I get it to market?

### **In what form/product?**

A majority of farmed black tiger prawns are sold cooked and frozen/chilled to the local markets, with a minimal amount being exported. A smaller market exists for green or raw prawns, particularly for restaurant use. Value-adding opportunities exist for peeled, marinated and pre-packaged prawn/combination meals.

### **What processing and packaging is required?**

Black tiger prawns are normally harvested when they are 25-35 grams each. They are then washed, graded and generally cooked before marketing. Smaller amounts of prawns are sold green whilst others may be individually quick-frozen and stored for sale at a later date.

### **Transport?**

Most prawn farming operations are harvesting, processing and shipping direct to wholesale markets. A limiting factor in the industry's development has been the shortage of space for this perishable commodity in jet cargoes, especially at key production times. In this respect, access to international airports is critical for site location and marketing.

## Production – how are prawns farmed?

### **What is needed?**

In Australia prawns are usually grown in earthen pond systems with a good source of seawater. The site selection of these ponds is probably the most important element in getting started. The physical characteristics to consider include access to water of good quality, water temperature, land area, soil, slope, tidal range, flooding tendency, rainfall and runoff. New South Wales provides an ideal farming climate over summer without the prolonged wet and dry periods experienced in northern Queensland.

### **What are the production processes?**

Ponds are stocked with juvenile prawns provided by hatcheries at rates of between 20-40/m<sup>2</sup>. They are fed up to four times a day on artificial high protein meals. Depending on the species and water temperatures harvesting commences between 130-180 days. The key to good culture and animal husbandry practices is being able to maintain water quality close to the species optima. This requires ponds to be monitored daily over a range of water quality parameters.

### **How much can I produce?**

Research shows that higher stocking densities not only reduce growth rates but also increase the rate of water deterioration due to higher feed input. Stocking rates of over 75 m<sup>2</sup> (used overseas) have not been applied in Australia due to sustainability and efficiency issues. In New South Wales 3.5-4.5 tonnes of prawns can be produced annually per hectare of pond.

## Impediments – who is going to stand in my way?

### **Competitors?**

After initial skepticism, farmed prawns are now well established and accepted in the market place, with prices competitive to wild caught prawns. The major competitors for Australian farmed prawns are wild caught commercial fisheries and cheaper imports from South-East Asia. In 2003 imports of low value prawns doubled to more than 25 000 tonnes, primarily from Thailand, India, Indonesia and Vietnam. These can be imported for as little as AUD\$7.00 per kg, which forces the domestic price down for mid to top end market products. The rising Australian dollar can also make exporting more difficult when trying to maintain reasonable margins.

### **International borders**

It is unlikely that South-East Asia will provide export opportunities for large quantities of Australian produced black tiger prawns due to transporting costs involved and their high production of a similar product. Potential does exist for export to countries that value higher quality prawns and have already exhausted their wild stock fishery.

### **Legal, environmental, health problems**

In spite of some early cases of poor site and species selection and some recent setbacks with disease and post larval supply, the growth of the industry has been steady. Gradual tightening of environmental controls and coastal zone management practices has not only prevented the kind of rapid development and spectacular crashes seen in South-East Asia, but also ensures that the associated environmental degradation and disease issues are not repeated in Australia.

A high standard of protection for the environment is ensured as the industry is currently regulated by local, State and in some areas, Federal laws. Given the current NSW Government's regulatory reform covering the aquaculture industry, it is projected that within 5 years a minimum of 250 ha of prawn ponds will be constructed which is predicted to generate revenue of around \$25million.

## How can I improve my chances?

### **Industry groups**

The Australian Prawn Farmers' Association (APFA) was formed in 1993 to represent the interests of prawn farmers and to foster the development of the Australian prawn farming industry. As well as lobbying power, members of the Association receive the benefits of networking within the industry and related sectors and discussing products and methods to improve performance.

### **Product champion**

A The product champion for prawn farming in Australia is Rocky Point Prawn Farm (RPPF) in Queensland, who have contributed over \$8m to Australia's export earnings over the past 3 seasons. Pioneering the export of quality frozen black tiger prawns, RPPF secured a lucrative contract with an exclusive Japanese restaurant even though it had been repeatedly advised that this was impossible due to a 100% price increase when compared to local South-East Asian producers. The superior quality of RPPF's product proved to be a decisive factor in the customer's decision to pay a premium for these prawns.

In New South Wales prawn farming is concentrated on the banks of the Richmond and Clarence Rivers and is the state's most valuable land based aquaculture sector. Tru Blu Prawns, situated near Yamba in the Northern Rivers region, is the longest established black tiger prawn farm in Australia. Situated on what was originally cane fields, the 26 hectare, 30-pond farm can now produce 100 tonnes of prawns annually.

Sources of information and government assistance

A variety of information is publicly available to assist aquaculture investigations. Further information can be obtained at:

- NSW Fisheries: (02) 4982 1232 or [www.fisheries.nsw.gov.au](http://www.fisheries.nsw.gov.au)
- Department of Primary Industries 13 25 23 or [www.dpi.qld.gov.au](http://www.dpi.qld.gov.au)
- Australian Prawn Farmers Association (07) 3255 1070 or [www.apfa.com.au](http://www.apfa.com.au)
- CSIRO: Marine Research (07) 3826 7200 or [www.marine.csiro.au](http://www.marine.csiro.au)
- National Aquaculture Council [www.australian-aquacultureportal.com](http://www.australian-aquacultureportal.com)
- Department of State and Regional Development [www.business.nsw.gov.au](http://www.business.nsw.gov.au)

## Contacts



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The Emerging Industries Development Program is a joint initiative of the Area Consultative Committee and the Development Board. The program is delivered with funding assistance from the Department of State & Regional Development and the Federal Department of Transport and Regional Services.

### ***For further information on this or other information sheets***

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