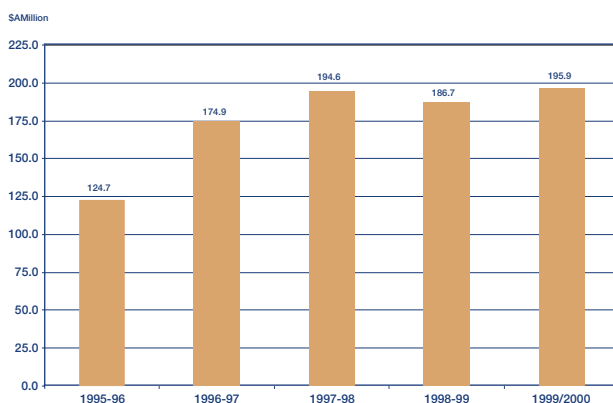


Opportunities in Aquaculture

Overview

As worldwide demand for seafood continues to grow and production in wild-capture fisheries reaches its full potential, the demand for aquaculture to fill the shortfall will also grow. According to the Food and Agriculture Organisation of the United Nations (FAO), 20 per cent of global fisheries production (and 29 per cent of food fish) are provided from aquaculture.

Fig.1 Value of Aquaculture Production in WA



Source: Australian Bureau of Agriculture and Resource Economics – Australian Fisheries Statistics

There are significant aquaculture investment opportunities in Western Australia.

Aquaculture has grown in value from \$A124.7 million in 1995/96 to \$A195.9 million in 1999/2000 (see Fig.1). It has become a diverse industry, which includes a range of coastal activities such as mussels and pearl oysters (north), and inland yabbie farming in the **Wheatbelt, Mid West** and marron farming in the **Great Southern**. Western Australia is unique as it offers a range of environments suitable for a variety of aquaculture ventures, from the tropical waters in the north of the State, to temperate and inland environments.

Current commercial aquaculture species include pearl oysters, mussels, edible oyster, marron, yabbies, silver perch and algae for the production

of beta carotene. Other species are currently being developed including barramundi, trochus, marine prawns and abalone.

The State Government is strongly supporting the development of the aquaculture industry and funded the implementation of the Aquaculture Development Strategy.

Major elements include:

- Establishment of the Aquaculture Development Council and the Aquaculture Development Fund.
- Appointment of Aquaculture Development Officers in the **Kimberley, Gascoyne, Wheatbelt**, and **Great Southern** to provide extension services and technical advice to assist the industry.
- Production of a number of aquaculture development plans for regional areas in Western Australia, including the **Kimberley, Gascoyne** and Abrolhos Islands.
- Completion of the Broome Tropical Aquaculture Park and the Great Southern Aquaculture Park at Albany.
- The appointment of a team of world class aquaculture research staff.

Regional Activities and Opportunities

Kimberley Region

The Kimberley Region is located in the far north of the State. Its major centres are well serviced by air, sea and all weather roads and a modern telecommunications network.



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Aquaculture opportunities in the Kimberley are both exceptional and extensive. There are a number of aquaculture zones within the region. The species most suitable for development include barramundi, pearl oysters, marine prawns, native aquarium fish and red claw crayfish.

The Broome Tropical Aquaculture Park offers a unique opportunity to potential investors. The park has a number of fully serviced sites available for immediate lease.

The sites may be suitable for a range of activities, but are particularly suitable for hatchery activities for tropical species.

The development of aquaculture in the Kimberley presents a unique opportunity given its outstanding biological and natural resources, its close proximity to Asian markets, and its abundant water resources.

The Kimberley is poised for major aquaculture development with gross returns that could be as high as \$A100 million in the next 4 to 5 years.

In addition, Fisheries WA has identified this region as having significant potential for the production of black tiger prawns.

Pilbara Region

The opportunities for the further development of aquaculture in the region are worthy of further investigation. For example, there may be opportunities to cultivate marine algae for the production of beta carotene. A further potential opportunity is to assess the technical feasibility and production economics of producing a range of finfish species and Artemia (brine shrimp).

Gascoyne Region

The potential for aquaculture in the Gascoyne is described in detail in the Gascoyne Aquaculture Development Plan.

The black pearl industry is presently expanding at Shark Bay, Exmouth Gulf and the Abrolhos Islands. The availability of geothermal ground water may provide an opportunity for the farming of tropical species.

Research trials and feasibility studies have been conducted on warm water finfish growout for species such as barramundi, and ornamental fish, using warm artesian water in the Gascoyne hinterland.

Subject to detailed investigation, the species offering the best prospects in this region include black lipped pearl oysters, fresh water aquarium fish, estuary cod, barramundi and micro algae.

Mid West Region

Aquaculture potential in the Mid West is also promising and includes yabbies, scallops, marron, silver perch and mariculture including marine finfish.

The region is home to the largest single aquaculture project in Western Australia, at Port Gregory Bay, north of Geraldton, producing beta carotene from algae.

The industry will receive a major stimulus from a marine education, training and industry research centre being developed by the Mid West Development Commission and the Central West College of TAFE.

Wheatbelt Region

The Wheatbelt also offers opportunities for inland and coastal aquaculture and is close to the metropolitan markets and port. Freshwater crustaceans, predominantly yabbies, are grown very successfully in the region. There is also growing interest in the production of a range of finfish species in saline waters.

Marron production facilities east of Jurien have the potential to exceed 20 tonnes/annum. Yabby production for export is also expected to increase in the region over the next two decades, subject to adequate rainfall.

Peel Region

The Peel Region is immediately south of Perth and has a unique estuarine environment and a strong commercial and recreational fishing industry. As a consequence this region offers development



potential for aquaculture, particularly with marron and possibly with silver perch in the inland region as well as abalone on land based sites on the coast.

South West Region

Aquaculture in the South West includes fresh water species such as marron, and trout. Department of Fisheries operates a trout hatchery at Pemberton, and provides fingerlings for the stocking of dams and ponds.

Marine species, such as abalone, also offer significant potential. Commercial production of marron is expected to increase considerably over coming years.

Great Southern Region

Aquaculture is an industry growing in importance in the Great Southern. There are opportunities for investors to come in on the ground floor either in partnership with existing industry participants or as proponents of greenfield projects. The south coast in particular has been identified as having the greatest potential for the production of abalone.

An abalone hatchery has been established at Albany and a number of proponents have recently been granted licences to farm abalone, on coastal sites, as far east as Bremer Bay.

Albany also has a large aquaculture operation, which is producing commercial quantities of mussels and rock oysters. Additional licences have also been granted for marine based abalone grow out.

Many farmers in the region already harvest yabbies and marron for export to South East Asia and Europe.

Goldfields-Esperance Region

There is strong interest in developing inland aquaculture in the northern Goldfields, in water filled decommissioned mining pits and tanks based on technology developed in Israel. The numerous mining pits provide an isolated disease free environment with good quality water.

A feasibility investigation of the potential of those inland areas is still to be conducted with emphasis on determining the quality of water available. The region has already had success in cultivating rainbow trout, which have trebled in number from 1999 to 2000.

An aquaculture plan has been drafted for the Archipelago of the Recherche located immediately southeast of Esperance. A pre-feasibility study for a marine institute in Esperance has also been completed.

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