



AQUACULTURE

IN THE PILBARA

History of aquaculture in the Pilbara region

Key Aquaculture Statistics:

Production: nil
Value: nil
Major Species: pearl oysters, algae
Production systems: long-lines, algal pond culture

The Pilbara has a long history of pearling with Cossack being the first pearling port in the North West. By the 1870s more than 80 boats were operating out of the port and divers from Japan, the Philippines, Malaysia and China were regularly stopping in the town.

The establishment of the pearl farming industry in Broome in the 1950's led to the establishment of pearl farms along the Pilbara coast including Onslow, the Montebello Islands and Flying Foam passage inside the Dampier Archipelago.

The Global Financial Crisis (GFC) of 2008 had a significant impact on the Western Australian pearl industry, which saw its gross value declining from \$175 million in 2002/03 to around \$60.7 million today. The GFC led to a total withdrawal of the industry from the region.

The Pilbara's high rate of solar incidence has seen it listed as one of the top six locations in the world for solar energy development by the International Energy Agency and has attracted the attention of a number of companies interested in algae culture. While various technologies have been demonstrated as feasible, no large scale facility has been established, although there is small operation just outside Karratha trialing beta-carotene production.



Regional advantages for Aquaculture:

Outside of its concentrated industrial areas, the Pilbara is a relatively undeveloped region. This means there are extensive areas of vacant land, coastal and offshore waters suitable for aquaculture development. Aquaculture development would be supported by established port infrastructure, a network of high-quality sealed highways and two international airports.

The water depth of inshore waters remains relatively shallow (less than 10m) for many kilometres while further offshore the water depth increases to greater than 20m. This means that inshore and tidal waters may be highly suited to mollusc culture (as demonstrated by the pearl industry) while offshore waters may be suitable for marine finfish cage culture. The tides in the Pilbara can be as high as 8m meaning there is consistent flushing of sites.

Significant areas of flat coastal land with minimal acid sulphate soils may be suitable for pond culture of a range of species, however, the shallow inshore waters may pose technical issues for pumping systems.

Inland areas with access to mine dewatering or underground water may support small operations producing for local markets.

Current commercial operations:

A small sub-commercial algal facility as well as a coral holding facility operate just outside of Karratha. The pearl leases and licenses still remain 'live' and could be activated should economic conditions change for the pearl industry.

Current projects, studies and research:

The Pilbara Development Commission (Commission) has engaged the Western Australian Department of Fisheries to undertake three studies on its behalf: a site, species and production system study; an economic feasibility study and a market investment study. The results of the studies will help to guide the Pilbara's strategy and investments in aquaculture.

The site, species and production system study will assist to identify the most likely candidates for the Pilbara to concentrate its efforts. An economic study is being conducted for the potential opportunities in edible oyster culture and marine finfish. The final part is the market investment study which will assist to find potential investors for the Pilbara aquaculture industry.

Investment opportunities:

The Commission has completed an Algal Precinct Site study which identifies six sites (three near Port Hedland, two near Onslow and one near Karratha) along the Pilbara coast which are suitable for algal culture. Two of these are rated as highly suitable - Onslow NW and Karratha. This study can be found on the Commission website at www.pdc.wa.gov.au

The Commission is very positive about the prospects of edible oyster aquaculture in the region. Edible oysters (rock oysters) are native along the Pilbara coast. The precedent for oyster culture has been set with the pearling history in the region. Production technology for rock oysters is well-developed around the world and would require some technology transfer and a good understanding of local conditions. The major advantage of oysters is their low environmental impact which should allow a relatively straight forward approval process. The Commission considers the foundations of an industry could begin to be laid in the next 12 months.

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