

## Northern Inland Bioregion

### REGIONAL MANAGEMENT OVERVIEW

Small-scale cage farming of barramundi (*Lates calcarifer*) on Lake Argyle has been successfully developed by a local fishing company over recent years. During 2001/02, environmental approvals have been sought and gained allowing significant increases in production to occur this year and for the next several years. The interest of additional participants has also been fostered.

Other management activities in the bioregion included the provision of technical advice to landholders on the Ord irrigation system around Kununurra in relation to the production of redclaw (*Cherax quadricarinatus*), aquarium fish, sooty grunter (*Hephaestus jenkinsi*) and barramundi. Particular emphasis has been placed on the development of several community-based indigenous aquaculture projects.

Northern Inland Aquaculture Figure 1 shows the major licensed aquaculture sites in this bioregion.

### REGIONAL DEVELOPMENT AND COMPLIANCE OVERVIEW

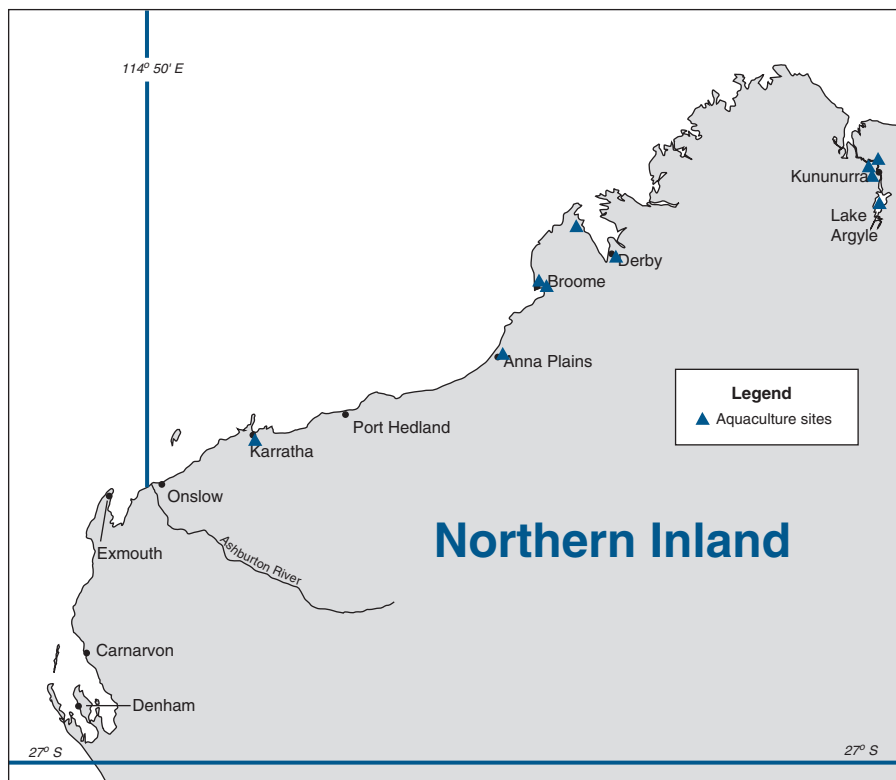
Aquaculture Development Officers are stationed in Broome and Kununurra. One of their major roles is to facilitate the necessary approvals to commence major aquaculture ventures in the Kimberley. During the year

special efforts were focused on assisting Aboriginal communities to meet their aquaculture development objectives. In addition, the officers were directly involved in the production of juvenile barramundi in liaison with the Broome TAFE, and in aquaculture site identification on pastoral leases for preliminary planning for the production of redclaw. Pre-feasibility studies were conducted for other crustaceans and finfish.

Further south, assistance was provided to the Gascoyne Inland Aquaculture Group which is investigating the production of ornamental fish in artesian waters. Ongoing technical advice was also provided in response to public enquiries.

### REGIONAL RESEARCH OVERVIEW

Evaluation of waste outputs from a range of barramundi feeds (part-funded by the ADF) has been undertaken at Lake Argyle with a commercial farm. This complements the environmental monitoring program developed for this farm by research staff and will permit updating of an internet-based model for predicting potential waste output for a range of farmed species including barramundi (part-funded by the ADF). A project proposal to the FRDC on minimising phosphorus input into Lake Argyle from barramundi farms was developed and submitted. The effort being made on barramundi projects reflects the potential for Lake Argyle to sustain very large tonnages of barramundi production.



**NORTHERN INLAND AQUACULTURE FIGURE 1**

Map showing the major licensed aquaculture sites of the northern inland bioregion.

## BARRAMUNDI FARMING

### BARRAMUNDI FARMING STATUS REPORT

Prepared by G. Maguire

#### INDUSTRY DESCRIPTION

##### Production areas

Barramundi (*Lates calcarifer*) is produced intensively in cages in Lake Argyle or in recirculating systems in the southern half of the State. Interest in producing barramundi is growing strongly.

##### Production methods

Barramundi can be farmed in cages in Lake Argyle or coastal areas, in inland saline ponds, or in intensive recirculating culture systems using fresh water, inland saline water or sea water.

#### AQUACULTURE PRODUCTION

|  |               |
|--|---------------|
| Production current season (2000/01):       | 45 tonnes     |
| Number of producers for year 2000/01:      | 7             |
| Production projection next year (2001/02): | 75–125 tonnes |

#### ECOSYSTEM EFFECTS

Barramundi farming is considered to present a medium risk to the environment. Cages within protected coastal areas and lakes can be operated with low environmental impact if appropriately located in deeper water with good current flow and if modern feeding practices and feed design are used which minimise uneaten food and soluble nutrient release.

Native fish around the cages can be expected to consume a significant amount of waste material (uneaten feed and faeces), thus reducing the overall impact on the environment. Land-based farms producing more than 1 tonne of fish are required to minimise their environmental impact and are subject to discharge licensing, which includes monitoring of water quality. The Department of Fisheries recommends use of swirl separators and/or settlement/reed ponds to improve the quality of water discharge from land-based farms prior to release or reuse.

#### SOCIAL EFFECTS

The industry is becoming a small but valuable source of regional employment, and has local tourism potential.

#### ECONOMIC EFFECTS

Estimated annual value (to producers) for year 2000/01:  
\$420,000

#### INDUSTRY GOVERNANCE

To undertake barramundi farming, a Department of Fisheries aquaculture licence is required. A water quality monitoring program that is to the satisfaction of the Department of Environmental Protection must be developed and maintained.

#### EXTERNAL FACTORS

This industry has the potential to grow significantly, particularly in Lake Argyle where a 500 tonne production licence has been issued. Growth in production has been delayed by some farmers moving to production of 3 kg fish for fillets rather than smaller, plate-size fish.

## Southern Inland Bioregion

### REGIONAL MANAGEMENT OVERVIEW

The southern inland bioregion is dominated by production of yabbies (*Cherax albidus*), marron (*Cherax tenuimanus*) and freshwater finfish, while the development of inland saline aquaculture continues to grow. Management and licensing arrangements have not changed significantly over the past year.

Coordination has improved within the aquaculture industry. The two main trout grower groups are working together to deal with issues facing their industry, which produces both rainbow trout (*Oncorhynchus mykiss*) and brown trout (*Salmo trutta*).

The Department of Fisheries facilitated a government workshop in February 2002, and organised an industry

workshop in Narrogin during April, in relation to inland saline aquaculture. The government workshop resulted in a commitment by the attendees from various agencies to form a working group to achieve better communication and co-operation and a strategic approach to the development of inland saline aquaculture. Industry participants resolved to develop strategies through the Aquaculture Council of WA.

Trout ova and fry from the South West Freshwater Research and Aquaculture Centre (SWFRAC) at Pemberton were again sold to freshwater trout farmers, and yearlings were sold to growers using inland saline waters.

The Silver Perch Growers' Association are working on developing a code of practice and marketing strategies for exporting their product (*Bidymanus bidyanus*).

The production of freshwater and marine ornamental fish species is a small but rapidly growing sector of the aquaculture industry in Western Australia.