



# Draft Victorian Aquaculture Strategy

Prepared by the Aquaculture Advisory Group

May 2007

## Foreword by the Minister for Agriculture

As wild fisheries stocks approach the limits of sustainable seafood supply, the aquaculture industry is playing an increasingly important role in meeting the global demand for seafood products.

In 2002, the Bracks Government recognised aquaculture as an important growth industry and committed \$2 million over four years to promote industry development. This included the establishment of the expertise based Aquaculture Advisory Group (AAG) and its preparation of this draft strategy.

In addition, the Brack's Government is currently expanding the marine aquaculture industry through the staged-release of more than 1700 hectares of water for industry expansion and development. This development will drive social and economic benefits for Victoria's regional communities.

This draft strategy builds on current policy commitments and provides a blueprint to guide public and private sector investment over the next decade.

The release of this draft strategy provides an opportunity for stakeholder feedback on the proposed measures to address key issues facing industry development. I encourage all relevant stakeholders to read this document and provide written comment to the Department of Primary Industry by 24 June 2007.

**Joe Helper**  
Minister for Agriculture



## Background

The world's population is growing faster than the supply of fish. According to the Food and Agriculture Organisation (FAO) of the United Nations, most of the world's fisheries are either fully exploited or over-exploited and consequently any further increases in global consumption of seafood will be met by aquaculture. In 2004, aquaculture provided an estimated 43% of global seafood consumed (FAO, 2006). This figure increased from 26% in 1996.

In 2005/06, Victoria's aquaculture production was valued at \$21.9 million (Commercial fish production information bulletin, 2006). Of this total, an estimated 33% (\$7.3 m) was edible exports (mainly abalone, eels and salmonid products), sold primarily into Asian and European markets. A further 12% (\$2.5 m) was non-edible production (aquarium fish). The remainder, 55% (\$12.0 m) is sold domestically through fish markets or direct to retailers, supermarkets, restaurants and frozen produce distributors.

Victorians consumed approximately 12.5kg of fisheries products per person in 2003/04 (Ruello, 2004). Of this consumption:

- Approximately 10% was Australian aquaculture product including a maximum of 4% from Victoria's aquaculture farms;

- Approximately 40% was Australian wild catch product including up to 16% from Victoria's wild capture fisheries;
- Approximately 50% was sourced from the import of foreign aquaculture and wild caught product;
- A maximum of only 20% of Victorian fisheries consumption was caught or grown in Victoria.

By 2015, Victoria's population growth is likely to see increased seafood consumption in the order of 8,279 tonnes (around \$40m) per annum. Given the fully exploited status of the wild capture fisheries, this presents supply opportunities for the local aquaculture industry.

Victoria sources its imported edible fisheries products primarily from Southeast Asia, New Zealand, China, South Africa and the USA. Approximately half of these imports come from New Zealand and Thailand.

How can Victorian aquaculture meet the future demand for edible fisheries products? The challenge will be to facilitate and realise the opportunities for growth in the Victorian aquaculture industry and to achieve, or even exceed, the sustainable growth targets over the next ten years.

*Fresh aquaculture product for consumers*



## Status of the industry

The gross value of Victorian aquaculture production was \$21.9 million in 2005/06 or approximately 22% of Victorian fisheries production (\$97.9 million). In 2004/05 Victorian production was approximately 3% of Australian aquaculture production. Victoria's aquaculture industry increased its production value (farm gate) by 60% between the 1997/98 and 2005/06 financial years; from \$13.7 million to \$21.9 million or approximately 6% per annum.

Unlike other states, Victorian aquaculture production in the 2005/2006 financial year was dominated by freshwater species (66%) which are, in most cases, now severely affected by drought.

Production by the Victorian aquaculture industry is reported as seven sectors. Production by value is dominated by the salmonid sector (39%), followed by abalone (26%), ornamental fish (12%), bivalve shellfish (8%), warm-water finfish (8%), eel (6%) and yabby (<1%).

Since 1998, private sector investment in Victorian aquaculture in regional areas has been substantial and is estimated at between \$50–100 million. In particular, sizeable investment has occurred in abalone farming and recirculation technology used to grow high-value warm-water



*Land based abalone aquaculture facility near Avalon, Port Phillip Bay*

finfish such as Murray cod, eel and barramundi. Economic return from the investment in abalone farming is yet to be fully realised because of the long lead times to production and marketing. Similarly, returns from recirculating aquaculture systems (RAS) are yet to be fully realised as technology continues to be optimised whilst costs of production remain relatively high.

There is a strong regional presence of aquaculture throughout Victoria and, in some cases, industry sector clusters that share suitable growing environments. For example salmonid farming in the cooler north east region.

In 2004/05 Victoria was the largest producer of freshwater trout (85%) and mussels (45%) in Australia and a significant producer of farmed abalone. The Victorian aquaculture industry is diverse and operates within a range of regional, climatic, social and biological environments.

The salmonid sector has grown over the past five years, and the abalone sector has grown rapidly in recent years as farms commence sales after long lead times to production. Over the same period mussel production has fluctuated. Over recent years, production levels of all freshwater dependent industry sectors have been impacted by drought.

## Victoria's competitive advantages

Victoria exhibits a wide variety of biophysical conditions and climates, some of which are ideally suited to commercial aquaculture. Victoria's climate has a more suitable growing environment for abalone, trout, mussels, eel and cold water ornamental fish in comparison to most other Australian states. Its northern areas are better suited to the growout of Murray cod and other warm water species.

More broadly, Victoria's multicultural population provides particular market opportunities, as part of an existing wholesale seafood network or as niche products direct to restaurateurs.

Victoria's aquaculture industry can draw on a range of leading research and education expertise and infrastructure, transport and communications networks.



*Rainbow trout - a mainstay of Victoria's inland aquaculture industry*

## Growth Opportunities

Some of the key industry development opportunities include:

- Offshore marine bivalve aquaculture;
- Land-based marine abalone aquaculture;
- Salmonid aquaculture in north-east Victoria;
- Integration of aquaculture into traditional agricultural farming practices;
- The use of Recirculating Aquaculture System (RAS) technology for intensive farming purposes;
- Growing international markets.

### The changing operating environment

Major trends and factors taken into account in the development of this strategy include:

- The increasing competition for access to coastal land, river frontage and for use of sustainable supplies of fresh water;
- The growing population in coastal regions of Victoria;
- Australia's ageing population and associated increasing demand for recreational fishing and related activities.
- The increasing vertical integration of aquaculture operations with tourism opportunities in regional areas (for example: food trails);
- The increasing demand from consumers for clean, 'green' sustainable fisheries products;
- The complexity and impact of national and state-based regulatory frameworks for Victorian aquaculture;
- The increased need for economies of scale and the impact of industry consolidation;
- The recent dry seasons and possible impacts of climate change;
- The increasing price and scarcity of fresh water requires greater efficiency and multiple water use strategies.

## Vision

To grow the value of the Victorian aquaculture industry from \$22m to \$60m by 2015 in a sustainable manner.

*Surface buoys showing mussel farming in Port Phillip Bay*



## Outcomes

### Competitive aquaculture businesses

- Increased investment;
- Better integrated and more cost-effective regulatory processes;
- Increased market access and development;
- More efficient production systems.

### Healthy aquatic environments

- Better understanding of aquaculture impacts on the environment;
- Low environmental impact production systems;
- Demonstrated 'best practice' environmental management.

### Aquaculture businesses valued by the public

- Increased public recognition of the aquaculture industry as an important sustainable seafood supplier;
- Improved ability of industry to anticipate and respond to external impacts.

# Objectives

## Objective 1: Identify and promote investment and development of Victoria's natural advantages for aquaculture.

There is the opportunity for new investment to utilise Victoria's natural advantages.

New investment is attracted to efficient competitive and profitable industries that identify and exploit a sustainable advantage over competing industries.

By virtue of its competitive advantages, Victoria leads Australia in aquaculture production of freshwater trout, mussels and abalone. In particular, competitive natural advantages will be realised in shellfish farming (Port Phillip Bay, Western Port and south west), salmonid farming (north east) and Native fish farming (Sunraysia district).

Other emerging industries will benefit from applied research aimed at managing production risks, identifying market opportunities and employing innovative technologies.



*R&D has identified scallop production as an emerging aquaculture opportunity in marine waters*

## Objective 2: Develop and implement whole-of-Government best practice management and regulation.

Aquaculture currently operates within a complex regulatory environment, parts of which may inhibit new investment.

The development and growth of an efficient, self-reliant aquaculture industry requires an efficient and effective regulatory system. More efficient, secure, streamlined and integrated government approval processes with clearly defined timelines will improve the investment climate.

Considerable progress in reforming Victoria's regulatory arrangements for marine aquaculture has been achieved and will be expanded to new areas to provide investment certainty and security of tenure.

## Objective 3: Improve market-led development including efficient supply chains, product integrity, market access and branding.

The development of an efficient supply chain is a keystone of business development fundamental to industry expansion. An efficient supply chain delivering quality well marketed products provides access to domestic and international markets. Sales of consistently high quality product can

be enhanced through mechanisms such as improved logistics, better connectivity between the producer and buyer, improved marketing and effective branding.

Victoria is a hub of national seafood supply and its aquaculture industry is well placed to realise opportunities to better manage supply chains to optimise profitability. In particular, mussel farming and native fish farming sectors will benefit from collaboration in research on value chain development and market intelligence.

## Objective 4: Improve productivity and reduce the environmental impact of production systems.

The sustainable growth of an aquaculture industry must be founded on the principles of environmentally sustainable development.

Industry and Government share an accountability to manage and demonstrate sustainable industry practices.

Industry and Government will work together to identify, promote and adopt best practice management for key industry sectors. This commitment to continuous environmental improvement will require identification and adoption of new technologies, supported by research and development.



*Victoria's pristine highland freshwater rivers support trout farming*

**Objective 5: Increase public awareness of sustainable aquaculture and its products.**

Despite its recent growth, community knowledge of aquaculture remains generally low with a correspondingly high level of interest in the industry's environmental and amenity impact. The provision of balanced information about the nature of industry will inform the general community. Community support and understanding of aquaculture is important for the sustainable development of the industry.

The State Government's commitment to expand marine shellfish aquaculture in Port Phillip Bay and Western Port will realise strong industry growth, regional employment and economic activity. This growth will also create demands on public coastal infrastructure, alienate public waters and impact on visual amenity. A strategic approach to understanding the social impacts of aquaculture, will assist in achieving increased community support for industry growth.

Public confidence in aquaculture will be enhanced by demonstrating industry compliance with State Environment Protection Policy(s) and other relevant laws.

**Objective 6: Increase self-reliance and capability of aquaculture industry sectors.**

Effective industry representation and organisation will enhance participation in strategic planning and representation to Government.

The Victorian aquaculture industry is small, regionally-spread and uses a wide variety of farming methods in both freshwater and marine environments. Effective self-reliance and capability of aquaculture industry sectors is necessary for the attainment of the vision of this strategy and the development and promotion of the industry.

Formal industry consultative arrangements prescribed in the *Fisheries Act 1995* will be reviewed. In the absence of an aquaculture industry peak body, there remains a need for industry-driven organisation, representation and opportunities for leadership training.

Applied research and development attuned to industries needs, will identify new technologies, improved production efficiencies and stimulate new and innovative investment.

*Successful industry and government collaborative research*



## Implementation

This strategy requires ownership, commitment and partnership between the public and private sectors. Implementation requires a concerted effort by all responsible parties including industry at the enterprise and representation level, and all relevant Government agencies. Where industry is the responsible group, it will have a key role in project development, management and implementation.

The objectives of the Strategy will be implemented through the actions in the Aquaculture Action Plan. The Aquaculture Action Plan will facilitate implementation of the Strategy and be reviewed annually. An implementation group will be established to advise the Department of Primary Industries on the implementation of the Aquaculture Strategy.

*Product branding differentiation is growing market demand for aquaculture products*



## Review

After five years a review will be undertaken of the effectiveness of the strategy in achieving its vision and outcomes. This will provide feedback for improvement of any future aquaculture strategy.

*Integrated native fish farming in the Sunraysia district*



## Aquaculture Advisory Group (AAG)

The AAG has driven the preparation of this strategy and action plan.

The AAG has members with industry, scientific, and community expertise “to provide advice and report to the Minister for Agriculture on any matter relating to the promotion and development of Victorian aquaculture”. Membership includes representation from the aquaculture industry, Fisheries Co-Management Council, Department of Primary Industries, as well as expertise from planning/environment and the business/investment sector.

In addition, the AAG consulted with relevant Government agencies, including; the Department of Sustainability and Environment, the Department of Industry, Innovation and Regional Development and the Environment Protection Authority.

The members of the AAG are:

John O'Connor - Independent Chair;  
Sharon Coombs - Seafood processing and marketing;  
Marcus Elgin - Business and Investment;  
Anthony Forster - Department of Primary Industries;

Elizabeth Johnstone – Municipal Association of Victoria;

Dr Chan Lee - Scientific;  
Hugh Meggitt - Trout farmer;  
Dr Cathy Oke - Fisheries Co-Management Council and Environmental Consultant;

Lance Wiffen - Mussel farmer;  
Roger Camm - Industry advisor/observer.

The Terms of Reference for the AAG are available on the Department of Primary Industries website at [www.dpi.vic.gov.au/fishing](http://www.dpi.vic.gov.au/fishing).

## Consultation and input

The AAG has consulted with stakeholders in the development of this Draft Strategy, initially through submissions on the Issues Discussion Paper and meetings with industry and other stakeholders. Input was also provided by the National Aquaculture Council, the Victorian Coastal Council, aquaculture research organisations and relevant Government agencies and through industry and research site visits.

The AAG has taken account of input from other sources, including: the National Aquaculture Policy Statement; the National Aquaculture Council's Aquaculture Industry Action Agenda; the Fisheries Co-Management Council's research strategy; the Victorian Indigenous Aquaculture Strategy; and the Victorian Coastal Strategy.

*A local Portarlington mussel farmer with freshly harvested product*



## Comments on this Draft Strategy

A public consultation period of 30 days has been established to enable written comment on this Strategy.

Please forward your written comments addressed to:

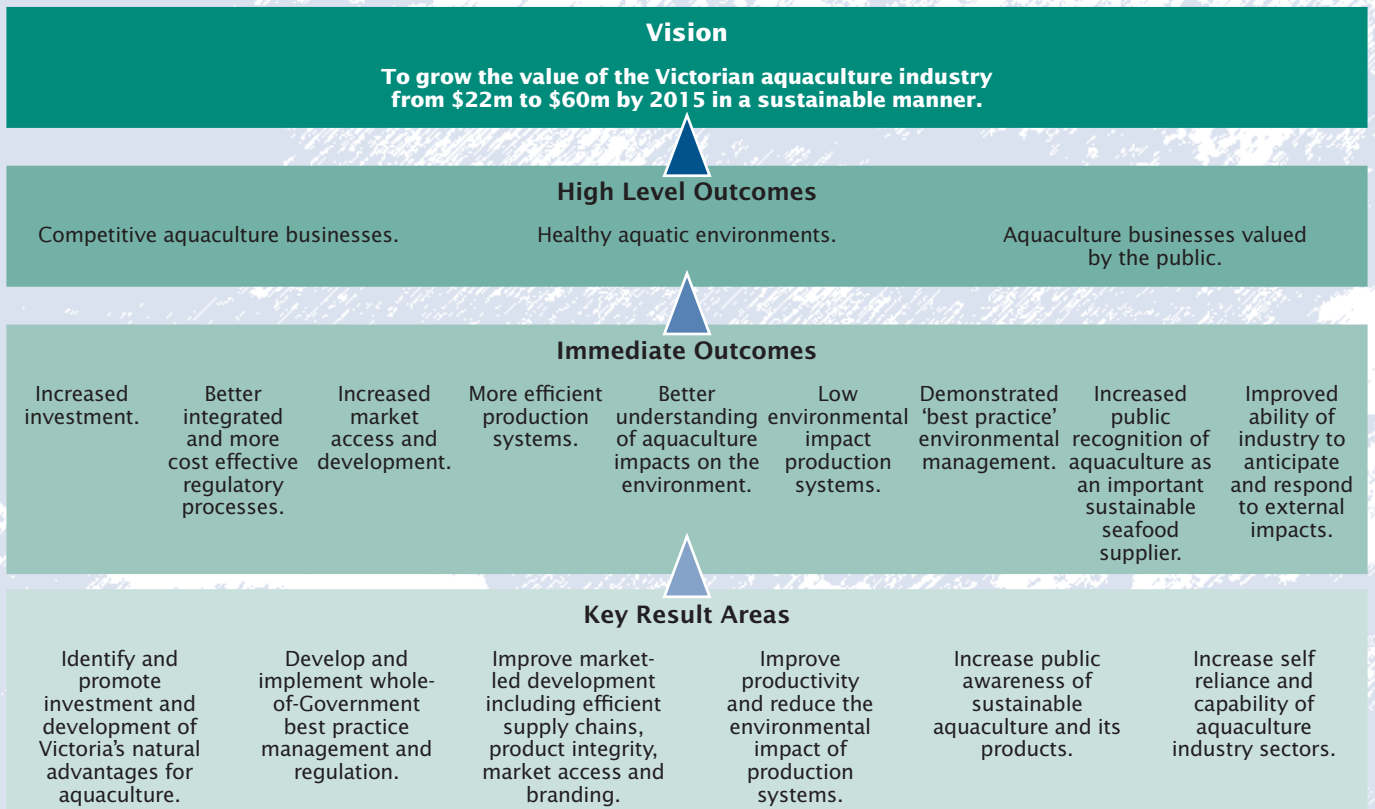
Executive Officer, Aquaculture Advisory Group  
 Department of Primary Industry Fisheries Victoria  
 1 Spring Street  
 GPO Box 4440 Melbourne  
 Victoria 3001 Australia.

Submissions are required no later than the close of business 24 June 2007.



Portarlington - home of Australia's largest mussel farming fleet

## Strategic Framework – An Overview



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