

The Tasmanian Aquaculture and Fisheries Institute



The Tasmanian Aquaculture and Fisheries Institute (TAFI) is a unique organisation.

Operating under a joint venture agreement between the Tasmanian Government and the University of Tasmania, TAFI's research specifically addresses the needs of the aquaculture industry.

Director Colin Buxton said there were "four legs to the TAFI table":

- the School of Aquaculture at the University's Launceston campus;
- the Fish Health Unit at the Mount Pleasant Animal Health Laboratories in Launceston;
- the Marine Research Laboratories in Hobart; and
- the School of Zoology at the University's Hobart campus.

Professor Buxton said TAFI aimed to produce outcomes that were useable by the industry. The focus on health management strategies included disease diagnosis, control and treatment.

"For example, we are looking at amoebic gill disease in Atlantic salmon which costs the industry approximately \$15 million a year," he said.

Professor Buxton said TAFI's research covered a wide range of aquatic

animal species, including salmonids, abalone, oyster, barramundi, southern bluefin tuna, kingfish, mulwavy, rock lobster, ornamental fish and striped trumpeter.

In particular he identified the ongoing research and development work on striped trumpeter as "cutting edge" and "potentially very exciting for the industry".

He said the success of the research project to date had direct positive outcomes for the rearing of other aquaculture species and provided an excellent example of how TAFI collaborated with leading researchers interstate and overseas.

"The work we are undertaking to develop striped trumpeter, well-known as one of the best eating fish in south eastern Australia and New Zealand, has been underway for more than 10 years," he said.

"The project has provided us with important information about the nutrition of striped trumpeter larvae and juveniles which should enable us to successfully grow the fish in captivity."

"The research results and techniques developed are exciting because they have direct application to other fish species."

Professor Buxton said from a nutrition perspective, another important area for aquaculture, TAFI was looking to identify alternatives to fish oil and fish meal for feed.

"We have already completed substantial work on potential alternatives and this work is continuing."

"Fish oil, which provides the high levels of omega-3 fatty acids, is expected to become expensive in the future and will ultimately limit aquafeed production," he said.

Professor Buxton said in addition to providing the industry with new information, the organisation was training the next generation of aquaculture scientists to meet the changing demands of the industry.

"TAFI is a national leader in the provision of training for the aquaculture industry," he said.

"The School of Aquaculture at the University of Tasmania is the only university school in Australia dedicated to teaching all aspects of aquaculture and was widely recognised as a centre for teaching and research excellence.

"The students have access to the best on-campus aquaculture facilities in Australia, with pilot scale fish and shellfish production."

"It is obvious that the ongoing development of the aquaculture sector has to be supported by an increased capability in aquaculture teaching and research. TAFI is certainly providing that support."

Photos: Courtesy of CSIRO



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AQUACULTURE



Tasmania's Aquaculture Industry

Tasmania's temperate environment provides excellent conditions for the state's rapidly expanding aquaculture industry.

Aquaculture in Tasmania has developed into one of the state's major industries.

In 2002, there were more than 3,000 hectares of water available in Tasmanian waters for aquaculture activities by 190 licensed farms.

Coastal marine and estuarine waters provide the basis for most of the aquaculture activities in Tasmania, with the majority of farming activity taking place in the south-east due to colder waters, proximity to markets and transport and export facilities.

The State Government, through the Department of Primary Industries and Water (DPIW), is committed to ensuring the aquaculture industry's viability.

An important component of maintaining the industry is thorough and ongoing research - currently directed towards improving management of the fisheries in relation to sustainability, stock health and production efficiency.

All marine-farming operations in Tasmania are licensed to ensure farming is sustainable, that the marine environment is protected and that the risk of introduced species is reduced.

Programs have been tailored to the size and location of marine farms, the species to be farmed, and the environmental aspects relevant to the location.

Separate environmental monitoring programs have been developed for shellfish and for finfish marine farming activities.

Species commercially farmed in Tasmania today include abalone, scallops, mussels, oysters, trout and salmon, with Atlantic salmon, Pacific Oysters and mussels the

most farmed species.

While it makes up a relatively small part of the world Atlantic salmon markets, Tasmania is well known for its quality produce.

The Atlantic salmon industry was established as a joint venture project between the State Government, a Norwegian company, and a group of private Australian companies, which led to the establishment of Salmon Enterprises of Tasmania Pty Ltd (SALTAS).

There are now several salmon and trout hatcheries operating in the State.

While overseas export, particularly to Japan, Hong Kong and Singapore is important, more than 90 per cent of the salmon produced in Tasmania is consumed in Australia.

The Tasmanian oyster industry is based primarily on the Pacific oyster, which is grown-out on marine farms, with interest developing in native flat oyster, also grown-out on licensed marine farms.

Tasmania's farming of blue mussels has also gained market interest since the rationalisation of the mussel sub-sector.

While local producers compete with New Zealand, Tasmanian-farmed mussels are now sold locally, and in Melbourne and Sydney.

The Tasmanian Aquaculture Council represents the views of the majority of the shellfish industry and the State Government is directly involved through DPIW, the Department of Health and Human Services and the Tasmanian Aquaculture and Fisheries Institute.

The Tasmanian Shellfish Quality Assurance Program is funded by growers and DPIW, and is managed by the Department of Health and

Human Services.

This includes the monitoring of water quality in shellfish growing areas and the public health status of shellfish on marine farms.

Did you know?

Tasmania's island status and relative isolation provides a world-class environment for the production of farmed marine species.

The climate and the pristine waters around Tasmania produce some of the world's finest and cleanest produce.

The Aquaculture Industry has expanded rapidly in Tasmania in the past decade to become one of Tasmania's major industries.



Huon Aquaculture Company

Since it was established in the late 1980s, the Huon Aquaculture Company has built a solid reputation in the salmon industry based on quality and continuing research and development.

Now Australia's second-largest producer of Atlantic salmon, Managing Director Peter Bender said the Tasmanian-owned company supplies the domestic market with a consistently high-quality range of products, achieved thanks to the pristine marine environment in which they grow and the attention to detail shown by staff.

The fish farms are located in the waters of the Huon River and lower D'Entrecasteaux Channel in the Tasmanian Wilderness World Heritage Area, which opens to the vast Southern Ocean.

Based in Hideaway Bay near the mouth of the Huon River, the company follows stringent environmental management practices, placing strict control over feeding systems and ensuring the regular movement and strategic placing of cages.

The company is widely recognised as a consistent producer of top-quality salmon, which is largely a result of innovative steps taken to ensure they are on the cutting edge of world aquaculture technology.

"We produce head-on, gilled and gutted (HOGG) salmon, and also supply HOGG product for processing," Mr Bender said.

"Our salmon is heavier and deeper, and are recognised as having the most consistent flesh colouring in the industry, which offers better yields and efficiencies to processors."

In July this year Huon Aquaculture purchased South Australian based company Springs Smoked Seafood.

"Since its inception 15 years ago, Springs Smoked Seafoods has established a national presence in the fledgling industry," Mr Bender said.

Springs Smoked Seafoods has built a reputation based on the premium nature of its products, using a traditional English recipe for smoking.

English Oak is imported for the smoking of the Huon Tasmanian Salmon, and a range of other fish species including mackerel and trout.

The company also produces top of the range caviar and trout and salmon pate.

"The acquisition of the company signals gate-to-plate delivery of farmed seafood on a grand scale," he said.

"Together we are confident of sustained success and growth."

Huon Aquaculture leads the industry in research and development initiatives undertaken practically on site, and as the company grows there continues to be a strong focus with ongoing research and development.

For example, Huon Aquaculture was the first to implement underwater infrared sensing technology to monitor feeding behaviour. This in turn will save the company money by limiting feed wastage and the environment by reducing feed on the seafloor.

"We also developed the world's largest live fish pump with a purpose-built grader and electronic counter, designed and constructed a fish race for minimal stress bathing and handling of fish, and investigated and implemented the latest photo-period techniques which use light regimes to enhance quality and growth."

Huon Aquaculture has installed and refined a self-delivery percussive-stun harvest system, which maximises welfare at harvest, resulting in better fish quality.

With recent success in production and research, and with more than 130 Tasmanians and another 120 South Australians employed by Huon Aquaculture Company, the future certainly looks promising for this family-owned and run company.



Photo: Managing Directors Peter and Frances Bender

Case Study: Aqua Assist Pty Ltd

A chance meeting that led to the creation of Aqua Assist Pty Ltd, a company that develops software for the management of aquaculture operations, has changed the way Tasmanian and Australian aquaculture businesses are managed.

Founder and Managing Director Rob Bronstein said the idea was developed when a fish farmer in Hobart told him there was a lack of computer software available for stock management in the salmon industry.

"I saw a real opportunity to develop a business here in Tasmania, a focal point for the aquaculture industry in Australia and the rest is history."

Today, Mr Bronstein and his partner, Megan Williamson, have 25 Australian customers on their books and are now trialling their software overseas in England, South America, the United States, New Zealand and Asia. Their latest US based customers include HUBBS Seaworld and the Inland Aquaculture Group.

The company currently has the top five major tuna and abalone growout farms in Port Lincoln, South Australia as its customers and has recently signed an agreement with TAFE Port Lincoln to teach its *Hatcher to Growout*

Assist software to the college's Aquaculture students.

This software has also been purchased by Malaspina College in British Columbia, Canada, giving AquaAssist exposure to commercial aquaculture facilities in that country.

Mr Bronstein said the company's first database application was Salmon Assist, developed in close consultation with Huon Aquaculture.

"Aqua Assist's software provides a management tool for the entire operation, from administration down."

"Stock control, environmental monitoring, health analysis, mortality, feeding schedules, maintenance and repairs, harvesting, sales, budgets and forecasting are centrally stored in the one system," he said.

Mr Bronstein said the software traced information providing farmers with precise data they could not obtain manually.

"It is becoming more and more important for consumers all over the world to know what they are eating."

"Our software helps companies to provide that information, including details about the product and its origin, all the way back to the egg

batch from which it originated in the hatchery," he said.

Mr Bronstein said the software was transportable across different species and had applications for feed production manufacturers and seafood processors.

"The suite of products has been expanded to also include Abalone Assist, Feed Assist, Hatchery Assist, Tuna Assist and Monitoring Assist with the development of Pearl Assist underway," Mr Bronstein said.

Aqua Assist has also developed software to support hand held technology, such as personal data assistants and bar code scanners, and its latest venture is in the development of radio frequency identification smart tags with a company in Japan to support the tuna industry in Australia.

Mr Bronstein said his company had benefited significantly from advice provided by the Department of Economic Development, particularly in the early days when it was a part-time concern.

In addition, Aqua Assist was an incubatee company under the Intelligent Island program incubator, In-tellinc.

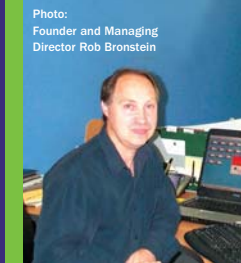


Photo: Founder and Managing Director Rob Bronstein

