



shellfish culture

shellfish culture newsletter Autumn 2011

Recovery gathers speed

The problems which challenged Shellfish Culture (SCL) in 2009-2010 have now been overcome and the company is looking forward to robust growth in 2011.

From the first spawning in June 2010 stock numbers have steadily increased with no signs of the problems of 2009-2010. Tasmania has experienced cooler than average summer and spring temperatures along with higher than average rainfall throughout this financial year. These conditions have kept water temperatures low but only had a minor impact on growth rates. The spat has benefited from an abundance of food in the water column throughout this period.

Production from both Pipe Clay Lagoon and Bicheno hatcheries has been consistent with supplies of those first batches already dispatched to customers. The early batches will be sold prior to June 30 this year. The latter batches will consolidate a strong position as the majority will be of a good size at the beginning of winter.

Staff at Pipe Clay Lagoon hatchery are being kept very busy as they nurture the spat through the pre nursery bottle phase. The sheer volumes produced late in the season are testing the boundaries of the greenhouse facility. The volume of algae required to feed the spat is quite astronomical - over 20,000 litres of high density algae culture per day. It is pleasing to note that spat in the greenhouse is performing well above expectations.

The Little Swanport nursery has been at full capacity for some months now. The bay has produced very favourable growing conditions that have seen stock progress quickly through the nursery system and into trays.



Andy Day, SCL's newest employee, assessing algae quality

All spat spends at least one rotation in Pipe Clay Lagoon. This intertidal environment means the oysters spend some time out of the water every day during low tide, and the regular 'rumbling' hardens the oyster shell, resulting in a nicely shaped, robust oyster.

The nursery employees are experiencing a very hectic time keeping up with the growth and very short rotations of stock in tubes on the PCL lease.

SCL's primary hatchery at Bicheno has now entered its annual maintenance period between spawning seasons. The next spawning will occur in early April, and in the meantime, the five staff are on a well earned break before gearing up for another busy season.

SCL's thanks go to Spring Bay Seafoods, NSW Fisheries, Geoff Diemar and Southern Cross Shellfish, for their assistance throughout

the financial year. Their support has been invaluable and SCL looks forward to continuing these associations.

"We are working towards having all back orders completed by March and March's orders going out on time", said SCL's Vicky Blizzard, Sales Coordinator. "We are well placed to deliver good sized standard stock in the coming winter and spring."

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Chairman's Report



Chairman, Greg Goodman

It's great to be back on a strong growth trajectory after major production problems at Shellfish Culture over the last 18 months.

Testing times bring out the best in people, and our staff and the Board worked tirelessly to turn the tide of events, and at the same time our customers and the industry provided enormous support and help.

As a result, we're achieving regular, successful spawnings, and our over winter stock looks like being one of the best on record.

Our staffing profile has also been strengthened, and I believe we now have the strongest team in place since I became Chairman five years ago. A key appointment has been that of Michel Bermudes as Area Manager of our key Bicheno hatchery. Michel previously did excellent work at our Pipe Clay Lagoon R&D hatchery and he now leads our expert team at Bicheno.

At Board level, we have been fortunate enough to recruit Michael Rayner, who brings a wealth of commercial, business and financial experience to the considerations of the Board. Michael is the former Managing Director of a well known Tasmanian business, K&D Warehouse. His appointment adds further balance and depth to a Board which is rich in its industry knowledge.

Looking ahead, Shellfish Culture is developing some exciting ideas. You will read more on these potential initiatives in this newsletter as the year progresses. In the meantime, I would urge as many industry representatives as possible to attend the International Oyster Symposium in Hobart in September this year.

Major capital works expansion

The small Research and Development hatchery at Pipe Clay Lagoon has been operating on a semi-commercial basis for the past two seasons to supplement production from the Bicheno Hatchery.

The site well and truly proved its ability to consistently produce high quality spat well within budget. Based on these results planning has already commenced on developing the hatchery to full commercial size.

"The expansion will be completed alongside normal production and will not impact on our ability to maintain stock levels and supply," says Kerry Wells, General Manager.

"Water management, including storage and filtration, is an integral component of the expansion



Scott Parkinson, Breeding Manager, inspecting spat in bottle system

program. Ability to 'manage' the water through water storage, in particular, will negate the impact of poor water quality during the larval stage."

The planned expansion to algal and larval systems will also improve long term sustainability for Shellfish Culture customers." This year is a very exciting time as we combine production with expansion in a major capital works project", says Kerry.



International Oyster Symposium set for Hobart

The eyes of the world oyster industry will be focused on Hobart in September this year.

The 4th International Oyster Symposium, in conjunction with Shellfish Futures 2011, will be held at the Hobart Function and Conference Centre, Elizabeth Pier, from September 15-18. Organised by the World Oyster Society, Oysters Tasmania and NSW Industry and Investment, the theme for the Symposium will be 'Embracing the Future through Innovation'.

Shellfish Culture is a major sponsor of this landmark event. Keynote speakers will address the areas of 'Innovation in supply', 'Innovation through diversification', 'Innovation in a changing environment' and 'Innovation in promotion, handling and marketing'. The wide variety of topics will appeal to all sectors of the industry.

The World Oyster Society website will make available the details of keynote speakers in the Final Announcement. Shellfish Culture will be hosting a tour of its facilities at Pipe Clay Lagoon. SCL is also the proud sponsor of two guest speakers; Stan Allen and Penny Miller.

Stan is from the Virginia Institute of Marine Science Centre (VIMS) and will make a presentation on aquaculture Genetics and Breeding. Penny is a University of Tasmania PhD student (see story this edition) and will report on the early results of the CSIRO and Shellfish Culture joint partner project into the advancement of SCL's tetraploid and triploid technology.

Interested in attending? Then take advantage of the Early-bird registrations that close on July 25. On-line registration is available on the Oysters Tasmania website, www.oysterstasmania.org.

Searange Shellfish prospers on great water quality

Ian Otto and his wife Charmaine have been growing oysters in the Coffin Bay area of South Australia since the early 1990's. Shellfish Culture has been supplying him with spat for nearly as long.

Up to 14 productive hectares at two sites yield up to three million oysters each year for Searange Shellfish.

"My wife and I started Searange Shellfish in the early 1990's. Today we employ up to six staff on the farm, and our oysters are distributed from Adelaide and Port Pirie right around the country," said Ian.

"Shellfish Culture has supplied spat to us for many years. About 30% of our product consists of

spawnless oysters, and they prove invaluable to us in the summer to keep up a continuity of supply to the market, especially through February and March."

Ian says that despite the recent shortage of oysters, he is upbeat about the future of the industry.

"Water quality is very good where we farm," said Ian. "We're on an oceanic estuary, and border a national park, which results in great water quality.

"Our experience as oyster farmers is that pristine water is paramount to oyster quality, and our location has been a tremendous benefit in building our business."



Ian Otto

The genetics of oysters

A PhD student is working with Shellfish Culture on an important project of benefit to our industry. Penny Miller commenced her PhD last year on the genetics of polyploid Pacific Oysters through the University of Tasmania and CSIRO. Her PhD is funded by the Seafood CRC. Here she explains the work she is undertaking.

I completed my undergraduate degree in Marine Biology at Deakin University, Warrnambool in 2007, before moving to Flinders University to complete an Honours project on the genetic population structure of Yellowtail Kingfish. I am now living in Hobart where I am working with Shellfish Culture Ltd. in the development of tools for the sustainable management of genetics in polyploid Pacific Oysters (*Crassostrea gigas*).

My project will form the basis to develop the first industry based breeding model to maintain a sustainable population of spawnless oyster broodstock. Additionally, the project will - for the first time- provide a model for genetic improvement in spawnless oysters and this will yield

greater productivity for the industry. In particular, my research will focus on polyploid diversity, stability and inheritance, while developing genetic tools and techniques for the future management of polyploid oysters. Currently, genetic improvement in standard oysters is fast outpacing that of spawnless and this gap could be a risk for the industry in the future.

For the first stage of my project I have conducted a genetic diversity study of native, naturalised and cultured standard oysters to determine what genetic potential is available (and are we utilising it all); the genetic difference between localities; and whether there has been substantial genetic loss since oysters were introduced from Japan and what degree of inbreeding is occurring within cultured populations.

I collected native samples from Japan and Korea, naturalised samples from France, NSW and Tasmania and cultured samples from three Tasmanian farms (including Shellfish Culture). The results have been very positive.

No genetic differences were found between the native and naturalised samples, suggesting that



Penny Miller

there has been no significant loss in diversity within Australian and French oysters since their introduction from Japan. The diversity of the cultured oysters, whilst slightly lower than the native and naturalised localities (likely due to the loss of rare alleles), was relatively high. The cultured samples displayed good genetic variability and a limited amount of inbreeding, suggesting that genetic management of these stocks has been very successful. I plan to publish these results later this year.



Staff Profile Mal Graham

Malcolm Graham is the Nursery Team Leader for Shellfish Culture at its Little Swanport nursery on Tasmania's East Coast.

A qualified carpenter by trade, Malcolm was born in Hobart but now lives on the East Coast – God's own country as he describes it.

Malcolm joined Shellfish Culture in 1998 after working in the construction industry. "I'm part of the furniture," he says. "My job is to nurse up to 25 million young oysters at one time."

Spat of 1.8mm are sent to Little Swanport where they grow to a size under Malcolm's care where they can be sent to Pipe Clay Lagoon for grading and supply to customers. "All oysters grow at different rates so sometimes the shipments I send to Pipe Clay Lagoon for grading contain smaller oysters that come back to me for further growing."

Malcolm's daily duties include cleaning the young oysters, grading, taking water temperatures, loading and unloading trays of oysters and ensuring that tanks are full of water.

"It's a busy job, and just cleaning the oysters consumes the first two or three hours of every day," says Malcolm. When the workload gets particularly hectic, additional staff travel from Pipe Clay Lagoon to assist Malcolm.

Little Swanport is a vital contributor to successful Shellfish Culture operations, and experienced staff such as Malcolm play a key role in meeting customers' needs for quality product.

Website Upgrade

Shellfish Culture is in the process of comprehensively upgrading its website.

It should be 'live' from April 2011, and will feature updated company information, together with up to the minute information for customers regarding supplies available from Shellfish Culture. Downloadable newsletters will be available in PDF format and the site will feature lots of pictures



The greenhouse: SCL's purpose built environment for year round algae production

There have been many technological changes in recent years in the hatchery and nursery areas, and these changes offer numerous photographic opportunities that will be showcased on the new website. So make sure you visit us at www.shellfishculture.com.au

Translocation Protocols

Translocation protocols is industry-speak for moving stock around, and Shellfish Culture is very proactive in ensuring disease free and pest free stock.

SCL recently reviewed its translocation protocols against ISO9002 standards, resulting in enhanced procedures that are more stringent than those required for translocation of stock into SA and NSW. Records will be kept on site and available for inspection should this ever prove necessary.

The Tasmania Shellfish Quality Assurance Program (TSQAP) – a national leading edge protocol system - is responsible for certifying Tasmanian hatcheries for the translocation of stock interstate. TSQAP has risen to the challenge of ensuring state borders are protected from biosecurity threats.



Lindsay Connors, Frank Kerruish and Price Jaeger deploying tubes on the PCL lease

One requirement of the program is six monthly testing of spat and annual testing of broodstock. In addition all individual batches produced by SCL have been certified disease free by the Fish Health Unit of the Department of Primary Industries, Parks, Water and Environment Mount Pleasant Laboratories

AgriFood Skills Australia

Some of the photographs in this edition of Shellfish Culture have been provided by AgriFood Skills Australia.

The organisation recently undertook a photo shoot at Shellfish Culture to help build a library of industry images for use on its website and in AgriFood publications.

AgriFood Skills Australia is the Industry Skills Council for the broad agrifood industry which encompasses seafood processing and aquaculture. Our thanks to the organisation for



Rosie Bennett appraising larvae health

allowing us to share some of its photos with our readers. You can find AgriFood Skills Australia on the web at www.agrifoodskills.net.au