

Abalone Council Australia Ltd Report October 2012

One of the primary functions of the Abalone Council Australia Ltd (ACA) is to oversee and manage national R&D investment in abalone related research.

The ACA has partnered with the Seafood CRC and the FRDC to ensure that investment in abalone related R&D supports and underpins the developmental needs of the Australian Wild harvest abalone industry.

This is a summary (as of October 2012) of the major projects currently within the ACA/CRC Abalone project portfolio:

1. *Progress Report: Australian Seafood Diagnostic Capability Map*

The availability of diagnostic services for marine bio-toxin analyses is limited in Australia and various government and industry stakeholders have identified this as a critical gap in national capability. The lack of these services in Australia means that shellfish have to be tested at offshore facilities (in New Zealand) to ensure the compliance of shellfish with marine toxin regulatory limits. Sending samples to New Zealand for testing imposes unnecessary costs on the industry and government through heightened transportation and customs charges. There are also unacceptable delays in receiving analytical results due to the additional transportation times associated with sending samples to New Zealand – this exposes the industry to longer closures and heightens public health risk. Given the foregoing, the establishment of a diagnostic service in Australia for marine bio-toxins is essential to meet increasing trade access and food safety requirements for shellfish, including abalone.

In 2011, the project team, through ASCRC support, facilitated a business review and implementation plan for marine bio-toxin diagnostic services in Australia. A key recommendation of this review is that a single site-single market pathway is commercially realistic and attractive. Further to this, several Australian agencies (industry and regulatory) have joined together in an informal partnership to 'offer' (tender) their combined samples for marine bio-toxin analysis to a laboratory based in Australia (to secure a lower cost for testing per sample). This includes the samples being analysed through this project. The tender was issued by the ASCRC on behalf of the 'Australian Marine Bio-toxin Partnership'. Four tenders were received from Australian based laboratories that have indicated that they are able to undertake marine bio-toxin testing for the Australian seafood industry. The tender assessment panel have now completed their review of the tenders and a preferred Australian based provider has been approached.

The preferred provider (Advanced Analytical Ltd.) has developed and validated most of the required tests for various shellfish matrices including abalone. Several of the methods implemented (including methods for the detection of paralytic shellfish toxins) have been assessed and accredited by NATA. There is currently a series of comparative tests underway whereby SARDI have supplied tissue samples to both Cawthron and Advanced Analytical and are comparing analysis results to validate the accuracy (or otherwise) of Advanced Analytical. These comparative tests will be continuing during October and November 2012 and it is anticipated that if Advanced Analytical perform as expected, they may be "operational" by the end of November 2012 - i.e. shortly thereafter will start undertaking routine analytical work for the Australian shellfish sector to support on-going market access needs (domestic and international).

This project is of particular relevance to the Australian abalone industry at the moment as testing of abalone foot tissue and viscera for Paralytic Shellfish Toxins in the wake of the recent algal bloom event in SE Tasmania has necessitated the "export" of abalone tissue samples for analysis to the Cawthron Institute in Nelson, New Zealand – it is great news that there will soon be a laboratory

facility within Australia with the appropriate level of infrastructure and accredited technical expertise to conduct this type of analytical research.

2. Progress Report: Compositional profiles for seafood products sold by CRC participants

Whilst most abalone exporters already have nutritional information/panels included on their product packaging/labeling, this project will provide a scientifically robust and independent assessment of the compositional profile of abalone that will withstand scrutiny from any source – commercial or government.

A Nutritional expert from Flinders University has been engaged by the SCRC to develop the nutritional panels as well as come up with some “good news” messages for consumers regarding the health benefits of consuming abalone.

In early August 2012, the final report for SCRC project 2008/905 “Australian Seafood Compositional Profiles” was made available to the ACA Ltd. By late September 2012, another “sister” project was completed and made available to the ACA Ltd – this project was conducted by Flinders University and involved a Nutrition and Dietetics expert taking the abalone specific nutritional data from project 2008/905 and turning it into a nutritional information panel suitable for use by the Abalone industry to satisfy labeling requirements and to assist with product marketing. The final Nutritional Information Panel for abalone is as follows;

NUTRITION INFORMATION PANEL (NIP) for Wild Australian Abalone (raw muscle)			
Serving size: 100g			
	Average Quantity per Serving	% Daily Intake* (per serving)	Average Quantity per 100g
Energy	392	4.5	392kJ
Protein	18.6	37.3	18.6g
Fat, total	0.58	0.82	0.58g
– saturated	0.20	0.85	0.20g
– trans	0.00		0.0
– polyunsaturated	0.24		0.24g
– omega 3	0.094		0.094g
– docosahexaenoic acid	29.30	97.7	29.30mg
– eicosapentaenoic acid	0.67	2.2	0.67mg
– monounsaturated	0.13		0.13g
Carbohydrate	3.14	1.01	3.14g
– sugars	0.9	1.0	0.9
Sodium	268	11.6	268mg
Phosphorus	132	13.2	132mg

Iodine	0.13	84.4	0.127mg
Iron	2.86	23.8	2.86mg
Vitamin E	1.33	13.3	1.33mg
Magnesium	48.3	15.1	48.3mg
Selenium	0.009	12.9	0.009mg

*Percentage daily intakes are based on an average adult diet of 8,700kJ. Your daily intakes may be higher or lower depending on your energy needs.

Please note:

The Food Standards Code does not set Daily Intakes for all nutrients, for example, trans, mono and polyunsaturated fats and total omega 3 fatty acids. The convention is to leave these spaces blank on the NIP.

The *Standards in the Australia New Zealand Food Standards Code* are legislative instruments under the *Australian Legislative Instruments Act 2003* – the authoritative versions of these standards are on the Australian Government ComLaw website www.commlaw.gov.au.

A summary of the nutritional benefits of eating Australian Wild Caught abalone is as follows:

Nutritional benefits of Wild Australian Abalone

There are ten reasons why Australian Wild Abalone is healthy to eat:

1. Australian Wild Abalone is a good source of **Protein** – protein is a nutrient needed by the human body for growth and maintenance – proteins are one of the building blocks of body tissue and can also serve as a fuel source.
2. Australian Wild Abalone is a good source of **Docosahexaenoic acid (DHA)** which is an OMEGA 3 fatty acid that is a primary structural component of human brain tissue, sperm, testicles and the retina (eye). Dietary DHA may reduce the risk of heart disease by reducing the level of blood triglycerides in humans. DHA has also been found to inhibit growth of human colon cancer cells.
3. Australian Wild Abalone is a source of **Phosphorous** - Phosphate helps to protect blood systemic acid/base balance, acts as a temporary store and transport mechanism for energy and helps in activating catalytic proteins. 85% of the body's phosphorus is in bone and the remainder is distributed through soft tissues.
4. Australian Wild Abalone is a good source of **Iodine** - Iodine is an integral part of the thyroid hormone and helps normal growth and metabolism. Thyroid hormones are required for normal growth and development of tissues such as the central nervous system and have a broader role in maturation of the body as a whole.
5. Australian Wild Abalone is a source of **Iron** - Iron is important in transporting oxygen in the blood, which is essential in providing energy for everyday life. Iron deficiency is common, especially in female sub groups (menstruating women, pregnant women, teenagers and athletes) as well as babies and toddlers.
6. Australian Wild Abalone is a source of **Vitamin E** - Vitamin E is a fat-soluble vitamin, mainly found in fats and oils and foods such as fish as well as some vegetables, and in the fat of meat and poultry. Vitamin E acts as an antioxidant, thereby protecting the membrane of polyunsaturated fatty acids from free radical damage.
7. Australian Wild Abalone is a source of **Magnesium** - Magnesium is a mineral and about 50% is found in bone. It is needed for many reactions in the body and helps maintain

normal muscle and nerve function, keeps heart rhythm steady, supports a healthy immune system, and keeps bones strong.

8. Australian Wild Abalone is a source of **Selenium** - Selenium acts as an antioxidant and assists in the activity of the thyroid hormone. Selenium is also beneficial for the immune system.
9. Australian Wild Abalone is very low in **Saturated fat** – consumption of saturated fat may increase the risk of heart disease. Health authorities recommend a diet low in saturated fat.
10. Australian Wild Abalone contains zero **Trans fat** – consumption of trans fat may increase the risk of heart disease. Health authorities recommend a diet low in trans fat.

This nutritional information about Australian Wild Abalone was sourced from the “Australian Seafood Compositional Profile Study” which was conducted by the South Australian Research and Development Institute on behalf of the Australian Seafood Cooperative Research Centre.

This information may now be utilised to assist exporters to comply with product labeling requirements and to assist with product marketing and promotion activities.

3. *Progress Report; CRC project 2009/723: “Analysis of product differentiation opportunities for Australian Wild Caught Abalone in China—Stage 2”*; Principal Investigator; Dean Lisson

This project was established following industry concerns regarding:

1. Declining returns to industry during the last decade
2. The massive proliferation of farmed abalone product now available in the market place and
3. The lack of any coordinated, industry-wide strategic focus in the marketplace

This project can be divided into two distinct phases – the first phase is now complete and the second phase is about to commence.

The **first phase** involved *direct recruitment* of restaurants via an activation strategy delivered by the China based market partner Grey Group Asia Pacific (G2 Shanghai). A considerable amount of marketing collateral was designed and tested during this phase of the project to see if it was possible to introduce abalone based dishes into non-Chinese cuisine restaurants. The collateral was designed to generate interest in Australian wild abalone and to specifically support and underpin the creation of a new industry “brand/mark” entitled “Australian Wild Abalone” (AWA). This project phase focused on a small number of premium “top end” restaurants in Shanghai and utilized product provided by three Australian exporters and imported/distributed via two local Shanghai seafood distribution companies.

The **second phase** of the project involves an increased number of Australian exporters and an increased number of China based Importers/Wholesalers/Distributors and will focus mainly on restaurants currently being supplied with abalone products. The focus of this phase will be on “activating” the China based section of the supply chain – i.e. seeing if it is possible to increase/enhance the marketing/promotional “activities” of the existing abalone importer/distributor. This phase will be underpinned by generic promotional

material/activities/events and the introduction of a unique product provenance technology (NanoTag© - please refer www.nanotag.com.au).

The project team will now work with a group of eight (8) Australian Abalone exporters to facilitate the provision of AWA product (legally compliant product with NanoTag© verification) via the established China import supply and distribution chain provided the selected importers/distributors are supportive.

The EX numbers of each export entity have been “printed” onto the proprietary NanoTags© which contain the words “Australian Wild Abalone” and a stylised map of Australia. Each processor will have their own proprietary tag with their own unique EX number. Product buyers in the importing country will be able to examine the tags with a special “magnifier” to verify product provenance. The customised tags have been incorporated into “wands” which will be used to place the NanoTags© onto the selected products. Additionally, labels, packaging tape and stickers containing the tags and the AWA logo will be available for processors to place on their product packaging to identify it as AWA product “protected” by NanoTag©. It is anticipated there will be some targeted promotional activities to roll out the Nano-Tagged product in Hong Kong and China.

A dedicated AWA website is being established as an educational tool for purchasers (and potential) purchasers of AWA products.

This website will be a source of relevant information regarding Australian Wild Abalone, the products and the companies that export abalone under the AWA industry standard. It will be designed primarily to provide relevant information to any business interested in sourcing and utilising AWA product – focusing initially on the Hong Kong and China market and expanding later to include other markets. The website is now in the final stages of development and will have four language options – English, Simple and Traditional Chinese and Japanese. The new website will have the following URL: www.australianwildabalone.com.au and the project team is aiming to have the site “go live” in late October 2012. In addition to the establishment of the website, print media files for AWA brochures and banners will be developed.

Product sold under the AWA banner will be premium quality wild harvest Australian abalone and suppliers will maintain their own proprietary brand but will also utilise the AWA© industry mark on their packaging. An AWA Code of Conduct describing the terms of engagement for any exporter wishing to utilize the AWA logo and associated promotional activities is currently being drafted. The presence of the logo on product packaging will indicate the following:

1. That the product is wild harvest Australian Abalone
2. That the supplier has conformed with the AWA Quality Assurance Code of Practice and
3. That product provenance is genuine due to the presence of Nano-Tag© labelling technology

Following a successful trial of the various Nanotag products and the establishment of the AWA website and development of associated promotional materials, it is anticipated that several “in market” AWA promotional events will be planned for Hong Kong and China in early 2013.

The challenge for this next phase of the project will be for the exporters (and the project team) to successfully energise and activate selected Chinese importers to engage in new promotional activities centred around the nanotag rollout and a fresh round of AWA promotional activities.

4. Progress Report; CRC project 2009/708 “An Abalone Quality Assurance program for the Australian Wild Caught Abalone Industry”;

There have been several false starts to this project that have delayed the intended rollout of a national QA Code of Practice. I am pleased to report however that significant progress has been made in recent months since I took over the management of this project.

As of early October 2012, the QA Code of Practice Master Manual has now been nationalised – i.e. it is now truly a “National” document suitable for use in all five abalone producing states. The format has been improved following recommendations from a stakeholder review. Legislative and regulatory summaries have been provided for each state and there have been a number of state specific protocols added to the document to reflect the fact that there are some operational differences between states.

Seafood Training Tasmania is in the final stages of developing a Training package that will be used to “roll out” the QA Code of Practice across all abalone fisheries.

The target audience will be Divers, Deckhands, Mother-boat Skippers, Processors and Transporters across all abalone producing states within Australia.

All of the course material will be developed around the core requirements of the Australian Abalone industry with elective delivery options tailored to meet the needs of the Audience and the unique handling practices of the State that they operate in. (shuck @ sea etc. in SA and WA).

Training will be non-accredited allowing for maximum customisation and to minimise course length and (therefore) the cost to deliver. In its initial iteration, the Training Package is to be contained within a 3-4 hour format (half day).

A Statement of Attendance will be issued to attendees of course. The course is to be developed in a format that allows for further expansion into accredited training as Industry/market demand for more rigorous QA/food safety/quarantine compliance increases in the future.

After the final versions of the QA CoP Manual and QA CoP Learners Guide have been completed and “tested” within a training trial (to be held in Tasmania during November 2012), they will be made available to peak state abalone organizations in each of the abalone producing states – it will then be up to each state body to provide these documents to a Registered Training provider to rollout the Code and conduct the training.

There will be strong linkages between the *Abalone Master CoP Manual* and associated *Abalone Training Package* (refer attachments)— and the CRC project 2010/704 “*Maximising the value by minimising stressing abalone – Optimising harvesting strategies*”: by Dr Craig Mundy and Dr Natalie Moltschaniwskyj. The stress minimization strategies developed as an outcome of this CRC project will be progressively adopted within the *Abalone Master CoP Manual* and associated Training materials. This CRC project is expected to deliver outcomes in the months ahead which will provide research based advice regarding improvements in fish handling, transport and live storage practices within the Australian wild harvest abalone industry.

5. Progress Report; CRC project 2010/737: Marine Bio-toxins and Market Access for abalone"; Dr Cath McLeod et al

This project aims to produce comprehensive risk assessments for marine bio-toxins in abalone to assist the Australian and New Zealand abalone industries meet market requirements. Within this broad objective there are several components of work, including: (a) adverse event sampling; (b) baseline testing in Australia; (c) depuration and canning experiments; and (d) risk assessments.

The project is scheduled to run through to mid-2014. The first 12 months of the project have seen an extraordinary amount of work undertaken due to several significant environmental events (algal blooms). These environmental events resulted in the expedited design and approach for all major project components, and initial laboratory contracts were developed and in place by May 2011. From late April 2011 through to the current time the project team has undertaken significant scientific investigations into three major algal blooms events, which has facilitated the completion of two of the five project components (adverse event and depuration sampling). This rapid initial progress has meant that the project is more advanced at this stage than planned and significant focus is now being given to undertaking the baseline survey component of the work.

Paralytic shellfish toxins (PSTs) were detected at levels exceeding the maximum permissible level in wild abalone sourced from several fishing zones off the eastern coast of Tasmania. These results led to the temporary suspension of live exports of abalone from some fishing areas. To assist the industry to resume live exports as quickly as possible the additional investigative work outlined above was undertaken through this project. In summary, the additional research undertaken included:

- Preliminary investigations to elucidate the identity of a novel toxin analogue discovered in the abalone samples;
- Additional testing to delineate the affected areas; and
- Preliminary investigations into the source of toxicity in the abalone through application of PCR tests for dinoflagellates in the viscera of the abalone.

The results from this project are now being used by industry and regulatory groups for informing risk management strategies for abalone. The active users of project information include DAFF, the Tasmanian Department of Health (TSQAP), the Tasmanian Abalone Council, the NZ Food Safety Authority and the Paua Industry Council. The Project Team has been involved in numerous teleconferences and face-to-face meetings with these end users to discuss the interpretation of results from the project, and to assist risk managers to develop well informed sampling and management plans.

The project is now preparing to focus on the baseline surveys and sample collection systems are currently being developed in conjunction with key stakeholders in each of the five abalone producing states.

6. Progress Report; CRC Project 2010/704 — Maximising the value by minimising stressing abalone – Optimising harvesting strategies: Dr Craig Mundy and Dr Natalie Moltschaniwskyj

Harvesting, handling and transportation of abalone are stressful events and influence the capacity of the animals to recover from harvesting and their post-harvest survival. Having a better understanding of the stress profile during these phases will enable divers, transport drivers and processors to better

manage the supply chain and will maximise the condition and survival rates of abalone and ensure that the maximum value of the harvest quota is retained.

The stress profiles are to be developed for a range of harvesting and transport scenarios including day fishing from runabouts and extended stay fishing from abalone mother-boats.

Based on the understanding gained from the stress profiles, the project will make a series of recommendations regarding improved harvesting, handling and transportation methods as well as how to minimise stress (and spawning) of abalone whilst in the tank holding phase prior to export and/or processing.

The PI for this project, Natalie Moltschaniwskyj gave a comprehensive project update at the International Abalone Symposium held in Hobart in early May 2012. The "summer" series of testing was conducted near Southport in SE Tasmania in early 2012. A series of tests were conducted on abalone immediately following harvest to measure the stress response under various "on deck" storage and cooling scenarios.

The next series of "winter stress" testing will occur early November 2012 (hopefully before the water cools down too much!). Further experimental work will be focussed on recovery of live abalones after receipt and tanking at a processing facility.

This project is receiving a lot of support and feedback at various industry forums and there is a push to expand the scope of the project in light of early findings.

7. Progress Report; CRC project 2009/714: "Decision Support Tools for economic optimisation of invertebrate fisheries"; Principal Investigator; Dr Caleb Gardner

The first phase of this project involves collection of economic data from processors and from fishers. This provides the essential economic basis for the bio-economic modeling and other analyses to be conducted in this project. A time series of export prices has been collected from several Tasmanian processors. Additional export data has been obtained from ABARES. The survey form for fishers has been finalised for Tasmania and South Australia and drafted for Victoria and New South Wales. Econsearch will be able to carry out the Abalone surveys in the next few months (the South Australian survey is currently underway). A database has been built which will store the economic data at IMAS and ensure that it continues to be available in future.

After the fisher surveys have been conducted, the project should be able to catch up during the modeling phase and complete by the originally anticipated date.

8. Progress Report; CRC project 2009/715: "Optimising business structures and fisheries management systems for key fisheries"

There has been progress with commencing an economic performance evaluation for the South Australian prawn fisheries and discussing options for improving profitability of the fisheries. These fisheries were selected as pilot case study fisheries to measure economic performance of key CRC fisheries using the wealth-based fishery performance indicators (EPI) developed by Anderson and

Anderson (2010). Two stakeholder workshops were held during 27-28th of February 2012 at Port Lincoln and Adelaide, which entailed 1) presentation of the current economic status of the SA prawn fisheries; 2) presentation of the assessment results using EPI system; 3) a series of presentations about fisheries that have established improved management systems; and 4) discussion of suitability of various options. The workshops provided an opportunity to address the issues that are of concern to the industry, and a basis for further discussion.

The next step is to carry out similar economic assessment for the selected CRC fisheries (e.g. southern rock lobster, abalone fisheries) and following each workshop the project team would work with industry, managers and scientists for each fishery to develop an options paper that assessed the pros and cons of various systems for each fishery.

9. Progress Report; CRC Project 2012/704: "Industry Strategies to support Intergovernmental negotiations concerning the export of Australian Rock Lobster and Abalone to China"

Representatives of the Seafood CRC and the Australian Abalone industry went to Hong Kong and China in November last year (as part of the SCRC China Project) - the purpose of the trip was to meet with key Chinese seafood importers and to try and understand some of the issues they were facing (re importing product - tariffs etc) and to see if they were willing to engage in a collaborative market/promotional initiative with their customers for Australian Wild Abalone.

The two key outcomes of the November 2011 mini trade mission were that:

1. Chinese Seafood Importers were willing to engage in some form of collaborative marketing initiative (the preparatory work for this is currently being done within project 2009/723 China Market project - ie. new AWA website and associated marketing collaterals, nanotag rollout, QA Code of Practice etc) and

2. Chinese Seafood Importers wanted the Australian Government to engage with the Chinese Government regarding improving/stabilising the current trading arrangements re imported Australian seafood.

There are a range of risks and uncertainties within the current trading environment for abalone and rock lobster with recent issues at the HK/China border gradually encouraging Australian exporters (of abalone at least - lobster to a lesser degree) to move over to the direct trade route into the larger Chinese cities of Shanghai, Beijing and Guangzhou - the Chinese Central Government has initiated steps to increase compliance with customs/importing laws and we are now witnessing a transition from the "traditional" Hong Kong/Shenzhen trade route to the "newer" (compliant) direct trade route.

This transitional period throws up a number of challenges but also offers some opportunities if we are smart about it! To this end, the SCRC and the China Project team are working to gain a more detailed insight into what is happening in China and how we can best position ourselves to smooth out the bumps in the transition process. The SCRC have also been talking with key representatives of the Southern Rock Lobster (SRL) industry (Tasmania, Victoria and South Australia) and the Western Rock lobster (WRL) industry (WA). The upshot of these discussions was a tripartite agreement to seek assistance and professional expertise to undertake a comprehensive assessment of the current and future trading environment for abalone and lobster products into China so that the industries can:

- a. communicate that advice to the Australian Government staff that are involved in China trade and market access issues and
- b. assist the exporters to better understand the "newer" trading arrangements so that they can adapt as necessary :

Three major outputs are required:

1. A report suitable for use by the Australian lobster and abalone industries, Australian government agencies and the SCRC that
 - a. Describes the details of the current trade policy instruments and procedures applicable to lobster and abalone imports to China, including regional differences if any.
 - b. Describes issues identified by Australian exporters that might be resolved through trade negotiations. For example, tariff rates, consistency in application of declared values, delays in customs clearances, port to port inconsistencies, etc.
 - c. Comments on the status of any inter-government negotiations to change Australia – China trade conditions and recommendations for short, medium and long term opportunities for improvement in these arrangements. (Free Trade agreement, bilateral agreement for Seafood).
 - d. Contains an analysis of the impact of the New Zealand - China Free Trade Agreement on the lobster and abalone industries and an assessment of the likely impact of an Australia – China FTA.
2. A confidential report and plan that sets out any activities the industry might consider implementing to assist in inter-government negotiations. This could include industry awareness activities undertaken with commercial counterparts in China. The report should also contain a manual that provides key messages and a guide to constructive engagement by industry officials involved in trade negotiations.
3. A series of options or recommendations on how the industries could establish a program to provide ongoing intelligence and awareness of developments in China trade policy and input to Australian government negotiations with China.

A brief describing the work required was placed in key media publications and was responded to by a number of Consultancy firms specialising in Communications/Trade & Market Access services. Three expressions of interest were received and following interviews, the company Kreab and Gavin Anderson (KGA) was engaged by the SCRC on behalf of the ACA, SRL and WRL. The project budget is 95k with each entity contributing one third of the cost. The ACA component will come from the unspent China Market Project monies.

Please refer to www.kreabgavinanderson.com for details re who KGA are and what services they specialise in.

The key KGA consultant that we will be dealing with is Sam Guthrie - he gave a presentation on the China marketing strategies of Wool Innovations Australia who he was working for at that time. He is now a senior consultant at KGA. KGA also has available the services of Geoff Raby - the immediate past Australian Ambassador to China - Geoff completed his China role in August 2011 and now works for KGA.

The SCRC has just completed a round of industry briefings (for Sam and another KGA partner, Michael Morgan) in Hobart, Melbourne, Adelaide and Perth. The initial report from KGA will be available to the SCRC during November 2012.

Dean Lisson; Chairman ACA Ltd

October 2012