Seafood CRC - Oyster consortium - communication, extension and management of R&D results

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AUSTRALIAN SEAFOOD COOPERATIVE RESEARCH CENTRE

Project no. 2007/715

Seafood CRC - Oyster consortium - communication, extension and management of R&D results

Prepared by Rachel King, June 2011

The Australian Seafood CRC is established and supported under the Australian Government's Cooperative Research Centres Programme. Other investors in the CRC are the Fisheries Research and Development Corporation, Seafood CRC company members, and supporting participants.

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Co-operating parties

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OBJECTIVES:

1. Manage a national strategic approach to oyster research and development.
2. Manage project development on a state by state basis
3. Manage and implement a communications plan to keep end-users, researchers and funding agencies informed and ensure research results are rapidly and widely adopted.
4. To establish and maintain collaboration within projects for the oyster industry
5. Represent the Oyster consortium at Seafood CRC core participant meeting.

NON TECHNICAL SUMMARY:

OUTCOMES ACHIEVED:

A framework has been delivered for a well managed national oyster consortium which utilises a strategic national approach to commission and communicate commercially orientated R&D.

CRC project 2007/715: "Seafood CRC - Oyster consortium - communication, extension and management of R&D results" was needed to ensure return on investment in oyster R & D, was seen as essential for industry change and to achieve the growth targets for the industry.
The Oyster Consortium formed in 2007 to become a core CRC participant but consisted of state based industry councils and commercial entities. The state based councils represent 970 small owner operator businesses throughout Australia. Strategy, co-ordination and facilitating effective communication were identified as crucial to ensuring that CRC research outcomes were adopted and commercialised quickly and extensively throughout the Australian Oyster industry.

2007/715 has produced:

1. A Business Plan that provides a framework of strategic national oyster industry R & D investment. This strategic approach has been achieved through initially ranking projects against R & D priorities, commission and design of a Business Plan and utilising the Business Plan in project development and approval. A strategic national approach has been maintained through the use of the Plan's priorities as a filter for projects, managing the budget, maintaining Consortium participation, and exploring funds and issues external to the CRC.
   The Business Plan resulted in two main outcomes; Consortium budget prioritisation and the pursuit of a national incorporated entity

2. 90% committed investment in Seafood CRC with the remaining 10% in project concept under the Business Plan. Over 40 'national perspective' projects were developed and commissioned within 2007/715. Degree of management in that process varied according to

a. the level of Working Group involvement, the R & D providers and the CRC management team
b. the proportion of oyster funds committed to projects in the CRC
c. completion of Business Plan
d. level of investment in each CRC program

3. A group of oyster industry members who still communicate readily with each other for a common national outcome with the agreement to form Oysters Australia. The Business Plan provided framework for the formation of a national incorporated oyster industry entity. Approval of CRC project 2010/747 "National oyster R & D – strategic R & D project commissioning, management and path to commercialization" (2010/747) is also testament to the successes of 2007/715.

4. Established annual agenda of CRC content at conferences and field days. The ultimate target of Consortium investment is the industry and its improved profitability. 2007/715 contained limited communication resources and involved communication with a large number of practically minded people. At the completion of 2007/715 the primary form of communication utilised was face to face at State conferences/field days, followed by updates to state executive groups. Use of mobile phone communication was more effective than written newsletter.

Further development of the Oyster Consortium model is to take place under project 2010/747 under the banner of a national incorporated entity for the oyster industry (Oysters Australia). The Oyster Consortium will become the R & D Committee of Oysters Australia (OA R & D). Project objectives are very similar but the planned outputs are:

1. Oyster consortium business plan R&D effectively implemented including finalised and complete research portfolio agreed with CRC.
2. An agreed strategy for long term management of R&D for Australian Edible oysters developed and sustainably resourced by industry
3. Optimised uptake of R&D outputs from CRC research and BCA completed with CRC

Achieving 2010/747 objectives will require the following further developments on the method used in 2007/715:

- OA R & D to update Business Plan priorities and allocate entire budget to projects
- Working Groups to be reconfigured under OA R & D to utilise skills in the industry (both from amongst and outside state elected representatives) and R & D providers. Project development under OA may also attempt to access funds external to the CRC.
- OA to seek resolution on the long term funding model as proposed through FRDC project 2009/224 "Formation of the first general national oyster industry incorporated entity"
- Communications plan to continue face to face communication at field days/conferences and updates to state executive groups. A newsletter will need to be reinstated under the banner of OA and the production of a complementary mobile phone transmitted video and/or text explored. The use of small focus groups to target particular project findings will also be explored.

KEYWORDS: Oyster, Consortium, management, co-ordination, communication

Acknowledgments

Consortium members, who were involved throughout project 2007/715, many who have given generously of their time and resources to assist with the industry's investment in Research and Development:
Australian Seafood Industries: Matt Cunningham
NSW Aquaculture Research Advisory Committee: Tony Troup, Mark Bulley, Kevin McAsh, Dominic Boyton, Ewan McAsh
Qld Oyster Growers Association: Jane Clout
South Australian Oyster Research Council: Steve Bowley, Gary Zippel, Jill Coates, Trudy McGowan, Bruce Zippel, Linda Hank, Mark Jarvis, Judd Evans, Jan Lee, Jedd Routledge, Carl Jaeschke
Shellfish Culture: Richard Pugh and Scott Parkinson
Select Oyster Company: Ray Tynan, Graeme Campbell
Tasmanian Oyster Research Council (Oysters Tasmania): Ian Duthie, Tom Lewis, Ray Murphy, Hayden Dyke, Giles Fisher, Mike Cameron, Ben Cameron, Bob Cox
Tasea: George Pitt

Industry members, who were involved or contacted on particular issues and projects. There are too many to list!

CRC staff for maintaining an overarching strategy and rigour to seafood industry R & D investment while being willing to negotiate: Len Stephens, Graham Mair, Jayne Gallagher, Emily Mantilla, Bob Fleming, Debra *D'Aloia*, Alison Connelly, Rebecca Wilson, Roy Palmer

FRDC staff for support of the national oyster industry's steps to manage and direct its own R & D investment: Patrick Hone, John Wilson, Crispian Ashby, Annette Lyons

Project PIs and R & D provider support staff for commitment to the industry's development, respect for time and resource contribution of industry members, and for delivering tangible outcomes of commercial benefit. Of particular mention:
Industry and Investment NSW: Wayne O'Connor, Geoff Allan
CSIRO: Peter Kube, Nick Elliott
UTas: Mark Tamplin, Judith Fernandez
SARDI: Cath McLeod, Tom Madigan, John Carragher
UniSA: Herve Remaud, Nick Danenberg
CDI Pinnacle: Shane Comiskey

Background

Project 2007/715: "Seafood CRC - Oyster consortium - communication, extension and management of R&D results" (2007/715) is a Seafood CRC Commercialisation and Utilisation project and was based on the FRDC sub-program management model. It was developed and approved in 2007 to

- establish and maintain a national approach to oyster industry R&D planning, project management and extension
- define and implement the oyster industries priorities in the Seafood CRC and collaborate with research providers who have committed to invest in the seafood CRC

The project was developed as a critical means to achieving consensus in developing, implementing and adopting research projects and in ensuring research outcomes were adopted widely and quickly by industry.

The Oyster Consortium was established in 2007 as an unofficial national collaborative organisation of the Australian edible oyster industry. The group, through FRDC project 2007/310, identified Consortium management as one of its priorities and supported the development of this project. The Consortium's members are;

* Australian seafood Industries Pty Ltd
* NSW Aquaculture Research Advisory Committee
* Select Oyster Company Ltd
* South Australian Oyster Research Council
* Shellfish Culture Limited
* TASEA Enterprises Ltd (replaced by Qld Oyster Growers Association in 2009)
* Tasmanian Oyster Research Council

Need

2007/715 was needed to ensure return on investment in oyster R & D. The need originated from an environment of 970 small owner operator businesses throughout Australia and state based industry councils.
Strategy and co-ordination was identified as crucial to ensuring that CRC research outcomes were adopted and commercialised quickly and extensively throughout the Australian Oyster industry.

Coordination was seen as essential for industry change and to achieve the growth targets for the industry.

By forming the Consortium the oyster industry became a core participant in the Seafood CRC and, through 2007/715, aimed to deliver a strategic approach to R&D to maximize returns.

2007/715 has been responsible for meeting two distinct needs involved in the Oyster Consortium's national R&D strategy;

1. The strategic issues of R&D prioritization, funding and the linkages to (and support for) both industry development plans and Government objectives of industry development.
2. The operational issues of facilitating effective communication and coordination at all levels (industry/researchers, among researchers, among industry, FRDC/researchers etc).

Objectives

2007/715 objectives, along with the extent to which they have been achieved, are as follows:

1. Manage a national strategic approach to oyster research and development

Achieved - through a preliminary strategic planning exercise followed by the commission and completion of the Australian Edible Oyster Industry Business Plan; the Business Plan acting as a filter for new project concepts.

2. Manage project development on a state by state basis

Achieved - although projects were developed on a national basis, rather than a state by state basis, in response to common identified strategic priorities.

3. Manage and implement a communications plan to keep end-users, researchers and funding agencies informed and ensure research results are rapidly and widely adopted.

Achieved - initially through newsletter, regular reporting, informal communication, and face to face at state conferences. Later in the project alternate media were experimented with and heavier emphasis placed on face to face reporting at state conferences.

4. To establish and maintain collaboration within projects for the oyster industry

Achieved - in the process of commissioning new (and related) projects and in the communication of results from related projects.

5. Represent the Oyster consortium at Seafood CRC core participant meeting

Achieved - through participation at participants meetings, CRC mid-term review, AGMs and other meetings as relevant to the Oyster Consortium.

Method

Project method altered during the project and this is described in Table 1. The key differences between the proposed and actual method were:

- Project approval process needed to be more flexible and centred around an agreed Business Plan because of the perpetual nature of project development. The same applied for communication of project results.
- Consortium Working Groups role changed from project concept planning at the start of 2007/715 to an occasional advisory forum through the completion of the Business Plan.
- By 2008-09 the role of the Executive Officer grew to manage most Working Groups during project concept phase and utilised face to face over written communication by the end of the project.

Table 1: Difference in method between 2007/715 proposal and on project completion

Method	Method as per 2007/715 proposal	Method established during 2007/715
Project development, review and assessment	Project development, review and assessment to take place via one face to face meeting each year (a 2 day workshop in September with Day 1 for reporting and Day 2 for project development). A second meeting (March) aimed to table upcoming proposals. Consortium members, Industry, CRC PM's and researchers will attend and provide information so the strategic plan can be updated	Project development was driven by industry participants, the PI, R & D providers and CRC management in response to existing strategies. Projects were approved at face to face meetings and/or teleconference. Face to face meetings were used as a means to; • discuss and resolve strategy (October 2009 & March 2009 for Business Plan, August 2008 market workshop and March 2008 for R & D priorities) • receive findings and act on recommendations from completed reports or to resolve issues arising through the course of projects • provide input or approve a project proposal on an as needs basis Attendance was dependant on the agenda; a strategy and budget agenda attended by industry and a reporting agenda attended by relevant R & D providers, the CRC and industry.
Subgroups (Working Groups) to act as expert advice on project development	Six subgroups to be managed by an industry representative and a program manager with the subgroup to review and prioritise potential projects based on their merit in meeting	Working Groups Genetics, Benchmarking, Marketing, Health & Safety and Education & Training were maintained between 2008 and part of 2010. A Business Plan working group was added in 2009. The management of these slowly fell to the PI as Working Group chairs left/relocated within the industry (PI leading Benchmarking following Richard Pugh; Marketing and Business Plan leader defaulted to Rachel King. Genetics (formerly led by Scott Parkinson) and Health & Safety (formerly co-led by Hayden Dyke) activated on an as needs basis). A CRC Program manager was involved on an as needs basis.

		Working Groups were very active between 2008 and early 2010 as projects were developed but only utilised occasionally from mid 2010 onwards as the Consortium had almost completed its investment and had a completed Business Plan.
Communications plan.	To involve regular updates through industry newsletters, presentations and the Seafood CRC web. Researchers will be encouraged to publish results in international Journals and promote the advancements in the Australian oyster industry & newsletters.	Regular updates initially occurred through an oyster newsletter and regular reports to state executives. The oyster newsletter was not used from 2009. Greater emphasis was then placed on presentation in the form of a road show at each annual state conference/field day. R & D providers were supported in endeavours to publish and present findings.
Role of Executive Officer	To include: • first point of contact for the Seafood CRC • coordinate a single response from the consortium when required, • representation and voting as directed by the consortium at core participant meetings • coordination of meetings • implementation of communications plan • accounting for the budget	Additional roles italicised: • first point of contact for the Seafood CRC • Coordinate a single response from the consortium when required, • Representation and voting as directed by the consortium at core participant meetings, • coordination *(organisation, chairing and minuting)* of meetings • implementation of communications plan *(including organisation of and personally delivering CRC results 'road show at state conferences/field days)* • accounting for the budget • *facilitating working groups* • *development of some project concepts* • *administration of passage of project concepts through CRC approval process*
Project Officers	Assist coordination of consortium members, end users and researchers on a state basis. They will provide office facilities and a direct contact for all CRC business in that state. They will assist coordination of implementation of the communications plan on a state basis and assist in resolving any conflict between industry and research agencies. Project Officers were Scott Parkinson (Tas), Tony Troup (NSW), Matthew Muggleton (SA)	Project Officers were a concept that preceded a paid Executive Officer and were not put into effect, partly due to the project officers leaving/relocating within the industry. Instead; • the working groups were utilised for project development, and • the state's Executive Officer or equivalent were utilised to assist with communication and co-ordination of Consortium members by state.

Results/Discussion

Results are discussed by project Objective:

Objective 1: Manage a national strategic approach to oyster research and development

2007/715 began with an agreed list of ranked R & D priorities and, by project end, utilised a completed Business Plan. The Business Plan was the most important tool enabling a national strategic approach to oyster R & D.

In order to *achieve* a national strategic approach to oyster R & D the PI initially 1) ranked projects against existing priorities, then 2) commissioned and designed the Business Plan project and then 3) oversaw its utilisation.

Other tasks were important in *maintaining* a national strategic approach to oyster R & D and they were 4) maintaining the budget, 5) maintaining industry investment to the Seafood CRC and 6) dealing with projects external to the CRC in the national interest.

1. *Project ranking against R & D priorities:*

By March 2008, the Oyster Consortium used an agreed list of ranked R & D priorities designed to guide its investment. Those priorities were the product of two (FRDC funded) workshops. While quite legitimate, the priorities were not necessarily strategies to achieve identified aims; but a list of 'interest' areas. Prior to completion of a Business Plan, the Consortium needed a mechanism to;

- guide investment
- fast track the process of reviewing the CRC's Theme Business Plans & include them as a 'checkpoint' in project consideration
- order industry specific versus 'communal' project relevance
- take opportunities to participate in development of high priority projects (within the timeframe that they were being developed by Program Leaders) and 'shelve' others
- consider project concepts in areas not already under consideration

Approval of new projects, such as those originating from the CRC's Theme Business Plans, became a challenge. Current projects and proposed Theme Business Plans projects were mapped in relevance to the industry and its R & D priorities in a ranking exercise conducted at a meeting of the Consortium on 25 March 2008. The results are in Appendix 1 and were used until completion of the Business Plan.
This ranking also allowed the Principal Investigator to activate all working groups, Genetics, Benchmarking, Marketing, Education & Training and Animal Health with the aim of developing future project concepts while waiting for completion of a Business Plan.

2. *Commission and design of Business Plan*

A project application was submitted to DAFF for funds to complete an 'Industry Stocktakes' (national strategic plan) project in 2007 but was unfortunately unsuccessful. The Oyster Consortium resolved in March 2008 to continue to pursue funds for the completion of a strategic plan for the national oyster industry (Australian oyster industry business plan). The PI managed the following processes:

- Gaining resolution, across R & D and policy bodies across all states, recognising the need to set R & D strategies as a product of analysing whole of industry structure, policies and future direction
- Exploring and exhausting external funding avenues
- Gaining consensus to use Oyster Consortium funds and set the project budget
- Projects informing the Business Plan (Appendix 2) and recommendation on the timing of the Business Plan project in 2009 to ensure value for investment
- Formation and facilitation of the Business Plan working group consisting of industry heads/reps of policy and R & D organisations whose role was to advise on project brief, review tenders, recommend consultant to Consortium and other tasks as called on during the duration of the project
- Application for CRC funds and response to RAC queries
- Request for Proposal document along with a selection criteria
- Assessment of proposals and notification to applicants
- Project initiation with SARDI in January 2009 and subsequent termination in March 2009
- Commission of CDI Pinnacle to undertake Business Plan project
- Provide advice and support to CDI Pinnacle throughout the project

3. <u>Business Plan utilisation</u>

The Business Plan project was completed in January 2010 and set a direction for policy and R & D investment decision making for the Australian oyster industry.
The Business Plan resulted in two main outcomes; Consortium budget prioritisation and the pursuit of a national incorporated entity.

i. *Budget prioritisation* of the highest R & D priorities to guide oyster industry R & D investment over the life of the Seafood CRC. This began in October 2009 and was completed in consultation with the Seafood CRC.

   The PI was responsible for managing the following for the Oyster Consortium;
   - o project proposals examined against priorities and budget allocations
   - o the preferred budget allocation amended and approved (following discussion with CRC)
   - o exploring project concepts under High priorities not filled ie market and product development, cool/supply chain intervention, selective breeding/genetics, methods of communication/extension for remaining years of CRC (utilising 2010/747 funds and general CRC E & T funds
   - o exploring Medium priority project scope

ii. *Pursue formation of a national incorporated entity* encompassing both R & D and policy. Through this body the industry may opt to raise and attract further funds and/or resources to address priorities. Through this vehicle the national industry can lead and assist individual states on Business Plan implementation.

   The PI was responsible for managing the following for the Oyster Consortium;
   - o an 'Oysters Australia' working group formed from the Business Plan Working Group

- assisting in the creation of a project to provide legal, structural and financial advice on the structure of Oysters Australia, consultation with states, creation of a website and graphic design
- application for FRDC funds for the project (2009/224 "Formation of the first general national oyster industry incorporated entity")
- review and approve material used for consultation in each state. Assist with meeting organisation
- facilitate agreement to proceed at a meeting of 23/5 in Hobart
- draft media alert and liaise with PR group
- advise and support consultant (CDI Pinnacle)
- provide material (content and images) for website

4. Managing the budget

The Principal Investigator managed the Oyster Consortium budget through;

- Inclusion of estimated communal project and concept project costs (pre Business Plan)
- Inclusion of Business Plan allocations
- Provision of updated budget to the Consortium and the CRC to aid in project approval

5. Consortium participation

Seafood CRC participant Tasea went into receivership in late July 2008 leaving the Consortium with a reduced R & D budget.
The PI negotiated with potential parties Aqaoyster and Qld Oyster Growers Association (Qld OGA). CRC investment information was supplied (Appendix 3) followed by a formal call for industry investment. An agreement was reached in March 2009 for Qld OGA to join the CRC with remaining funds split between existing contributors as per recommendation made by the PI.

6. Funds and issues external to the CRC

The Oyster Consortium effectively acted as the peak national body for national oyster industry R & D investment. For lack of resources this needed to be restricted to the CRC as much as possible but at times there was involvement outside the CRC for strategic purposes:

i. External funds/grants search: A scan for available external funds and grants was done in order to pre-prepare project concepts ahead of funding rounds opening. This was supplied to CDI PM in case of its use in the Business Plan and will be used in planning for external funds applications under a national oyster entity.

ii. Climate change: While outside the CRC's investment portfolio, industry members requested information from the Consortium on the industry's climate change preparedness. Many institutions were trying to take charge in the climate change arena but with no strategic approach for the oyster industry. The PI made a brief assessment of current and planned climate change research relevant to the oyster industry. The gaps were identified and communicated to Tom Lewis, Rural Development Services who investigated further and submitted application for DAFF, Farmready funds for an oyster specific project.

iii. ICMSS 2013: The Oyster Consortium was asked to support a bid and host the International Conference of Molluscan Shellfish Safety in 2013. The PI holds the Treasurer position on the Organising Committee.

iv. DIISR Enterprise Connect and DAFF Caring for our Country: A number of attempts were made to access external funds; DAFF funds for a triple bottom line add on to the benchmarking project, DAFF funds for climate change, DIISR funds for benchmarking, and other Government funds for the Business Plan. In each case the PI identified that the project aims were more closely aligned with CRC aims than other Government investment (environmental) aims. Proposals were either unsuccessful or not submitted.

v. 4th International Oyster Symposium and Pacific Oyster Mortality Syndrome (OHsV1): These are examples of two issues where the PI opted to keep a watching brief for lack of time and also the knowledge that there were other industry players across the issues.

Objective 2: Manage project development on a state by state basis

Soon after 2007/715 began, Oyster Consortium members developed projects on a national basis. The term "state by state basis" in this Objective was effectively superceded by a national approach to projects. National project work with individual state members occurred through the Working Groups and also to utilise certain skill sets and experience. For example, Trudy McGowan (EO, SA) had significant marketing expertise and Tom Lewis (EO, Tas) had significant food safety and environment expertise and both were drawn on occasionally to advise national direction.

The Oyster Consortium began with a portfolio of selective breeding based projects transferred from the FRDC. At the close of 2007/715 its portfolio contains over 40 oyster (some cross-sector) projects with a national perspective. See Appendix 3 for a map of investment.

Diagram 1 illustrates the relationship of management hours (in hours/week) dedicated to;

- meetings (primarily communication/extension activities such as state conferences/field days in spring)
- projects (from concept and planning to execution and reporting)
- correspondence (phone and email)

This demonstrates that meetings and communication were a time expensive (but worthwhile) activity. Project planning and management fluctuated according to project, with a peak of activity around the time of the Business Plan in 2009-early 2010. General correspondence also fluctuated according to need. Further information on hours spent per week is in Appendix 4.

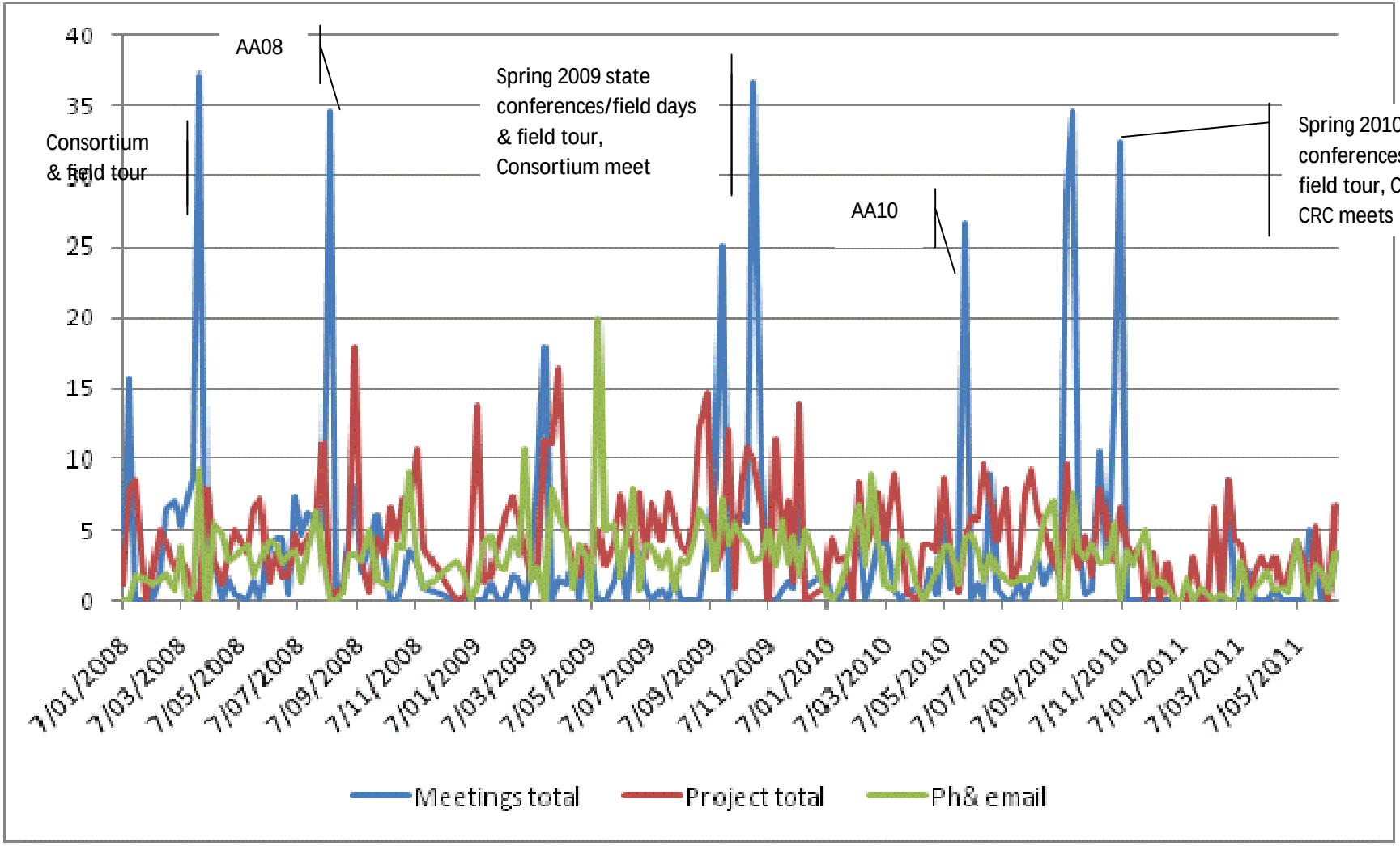


Diagram 1: Relationship of management hours (hours/week) between meetings, projects and correspondence

The degree of 'intervention' required in project planning and management varied widely according to;

- the level of involvement of the Working Groups, the R & D providers and the CRC management team (ie the origin of a project concept had a great deal to do with its ownership through to completion)
- the proportion of oyster funds committed to projects in the CRC (ie new project work was most prevalent in early CRC)
- completion of Business Plan (ie completion of Business Plan changed the role of the Working Groups from an initial scoping role to occasional advisory at the Business Plan's completion)
- level of investment in each CRC program (ie Program 2 investment needed more leadership than Program 1 investment)

Table 2 describes the degree of management that occurred across each of the Consortium's strategic priorities. The list of projects and activities are by no means exhaustive but provide an example of the level of PI intervention by project.

Table 2: Degree of management across the Consortium's strategic priorities

Projects largely driven by PI (as per Business Plan) with support from industry, R & D provider & CRC. *PI role involving: form working group, convene teleconference/meeting, project scope with R & D provider, create & submit application, assist project PI, provide advice and content, review report*	Projects largely driven by industry with support from PI, CRC & R & D providers *PI role involving: involvement in/convene teleconferences, letters of support, provide advice and content, review report*	Projects largely driven by an R & D provider with support from industry, CRC and PI *PI role involving: involvement in/convene teleconferences, letters of support, provide advice and content, review report*	Projects largely driven by CRC management team with minor support from industry and PI *PI role involving: watching brief and provision of limited advice*
Benchmarking: 2009/701 "Benchmarking": Joint work between Benchmarking Working Group and PI in 2008. Moved to a PI managed project in later stages. Also involved scope and creation of a benchmarking officer position description, negotiation with potential collaborators and application to DAFF's Caring for our Country funding round in an effort to obtain external funds.	Genetics/Education: WERA bursary for Judd Evans and Tony Troup in 2008. Assistance by Roy Palmer Genetics/Education: Bursary (2008) for Pierre Boudry, with Helen McCombie, IFREMER to present at AA08, industry tour and industry/R&D provider roundtable discussion.	Product integrity: PhD & Post Doc applications (2008/741) investigating norovirus incidence/ diagnostic tools and biotoxin diagnostics/capacity Product integrity: PhD (2008/763) 'Quality & post harvest'. Advice given on	Education and Training: Alife project (2008) Market: 2009/770 "Retail Transformation" (2009-10) Communal projects Nutritional profile and Omnibus required significantly greater input

Projects largely driven by PI (as per Business Plan) with support from industry, R & D provider & CRC. *PI role involving: form working group, convene teleconference/meeting, project scope with R & D provider, create & submit application, assist project PI, provide advice and content, review report*	Projects largely driven by industry with support from PI, CRC & R & D providers *PI role involving: involvement in/convene teleconferences, letters of support, provide advice and content, review report*	Projects largely driven by an R & D provider with support from industry, CRC and PI *PI role involving: involvement in/convene teleconferences, letters of support, provide advice and content, review report*	Projects largely driven by CRC management team with minor support from industry and PI *PI role involving: watching brief and provision of limited advice*
Planning: 2009/729 & 2008/798: Australian oyster industry business plan: (2008 and ongoing). See Objective 1 for more detail. Market: EBI desktop study (2008) (consumer expectations, previous recommendations & gaps). Support from CRC in project scope Market: 2008/753 Market workshop (strategy & investment steps). Education and Training (and Animal Health): Project concepts and prioritisation via Working Group (2008) Supply chain: 2008/777 Supply chain analysis: Separation of project from benchmarking project and sequence to better utilise Business Plan project funds Market: Project scoping (with Marketing Working Group) following 2008 Market workshop and preceding Retail Transformation	Genetics: 2009 roundtable discussing future projects collaborating between states (eg Condition project and potential ASI/SOCo shared management, benchmarking project officer, genetics training and extension projects). Market: 2007/706 'US market access' project Genetics: UTas' PhD proposal "Proactive Control of Oyster Spat Production by Controlling Microbiological Contamination" Genetics: 2009/743 'Condition project' and precursor workshop (2008/775) to scope condition definitions and measurement techniques Education & Training: Industry bursaries Shellfish food safety: ICMSS 2013	differentiation from PhD (related 2007/719) 'Quality index' Education & Training: R & D travel bursaries Education and Training: MISA communications project (2009-2010): Collate industry participants, write and review content. Market: Sensory evaluation. Road-show findings (with PI advice) for 2010 conferences/field days and methodology incorporated into condition project.	and ownership than others (providing advice, supplying material)

Projects largely driven by PI (as per Business Plan) with support from industry, R & D provider & CRC. *PI role involving: form working group, convene teleconference/meeting, project scope with R & D provider, create & submit application, assist project PI, provide advice and content, review report*	Projects largely driven by industry with support from PI, CRC & R & D providers *PI role involving: involvement in/convene teleconferences, letters of support, provide advice and content, review report*	Projects largely driven by an R & D provider with support from industry, CRC and PI *PI role involving: involvement in/convene teleconferences, letters of support, provide advice and content, review report*	Projects largely driven by CRC management team with minor support from industry and PI *PI role involving: watching brief and provision of limited advice*
commencement Market: Projects devised with EBI for selected industry participants (export targets & plan, underserviced domestic market) Product integrity: Exploration of project concepts in cool chain and improving shellfish safety eg SARDI concept "Microbiological baseline study"	proposal and bid (from 2009) Market: Acquisition of Tasea's grading charts, use and distribution as a descriptor tool at state conferences/field days Production innovation: 2010/743 Oyster over catch - cold shock treatment		

Objective 3. Manage and implement a communications plan to keep end-users, researchers and funding agencies informed and ensure research results are rapidly and widely adopted

The target of Consortium investment is the industry and its improved profitability. The PI identified early on that, with limited resources and a large number of people to communicate with, it was best to spend time communicating with industry. Direct communication with R & D providers and funding agencies was undertaken by industry participants and collaborators in the respective projects. The PI only became involved on an as needs basis.

There are many oyster growers who run time poor family businesses. Growers are practical, learn by watching, listen to those with credibility, and are convinced to make change only when the numbers stack up. The Consortium's 2007/715 communications plan began with newsletters and reports to state Executive groups but changed to face to face communication of findings through annual field days. It also experimented with alternate media.

Newsletters: The initial method of communication was the Oyster Consortium Latest (example in Appendix 5) which was written and distributed for approximately 18months from 2008.

Summary updates: Summary updates (an example at Appendix 6) were provided to meetings of state Research Councils and policy committees when requested (at least twice a year) and participation in teleconferences where needed.

State conferences/field days: After attending state conferences in 2008 and assessing that return on investment was higher, the PI opted to stop newsletter production and overspend the allocated travel budget to attend each state conference/field day. Approximately 230 growers (of 500+ active growers) attend these around the country each year. A line up of R & D providers presenting on the latest completed research was organised for each conference/field day. An example follows for 2010 in Table 3:

Table 3: Example content for CRC 'roadshow' at state conferences/field days (2010)

Aim	Description	Speaker
Understand and implement efficient business operation	Present business averages, present costings on a labour saving device (SED grader vs hand grader), present advice on retaining staff	Shane Comiskey with examples (SA, Tas, NSW x 2)
Understand and implement handling/storage practices to increase shelf life	Presentation of refrigeration index results & 'value chain' implications. Return on refrigeration investment through shelf life returns. Salmonella and E Coli growth results for SRO	Mark Tamplin (SA, Tas, NSW x 2)
Understand breeding program aims and achievements	Presentation of achievements and goals in future project	Wayne O'Connor/Mike Dove in NSW Matt Cunningham in SA & Tas
Understand consumer response to oysters in marketplace and consider response	Presentation of consumer research results	Paul Graham pre-recording of Colmar Brunton (Tas) Denise Hamblin, Colmar Brunton (SA)

		Rachel King (summary of EBI and Colmar Brunton) NSW
Understand oysters are food (ie not a commodity), define oyster eating qualities	Growers to taste & describe oysters from around Australia. Descriptor language as marketing tool and link to breeding program	Conor Delahunty & Maeve Cochet (Tas, SA, NSW x 2)
R & D 3 yr summary	R & D achievements & future investment	Rachel King (SA & Tas)

National conferences: Involvement in the steering group for the Oyster sessions for AA10 ensured cross section of Seafood CRC results was presented.

Alternate media: Participants of CRC project "Can they hear me" reported that succinct messages sent by mobile were a useful way of keeping up to date with R & D results. A monthly video, complementary one-pager and text message was written from oyster specific research results. While growers reported to have liked monthly updates, project results are not available that frequently. A half yearly communication is more likely.

Objective 4. To establish and maintain collaboration within projects for the oyster industry

Establishing and maintaining collaboration within projects was a large task when new project concept and approval was at its peak in 2008-2009. The following are some examples of where collaboration was forged;

- understanding links and relevance between Theme Business Plans and the oyster industry's projects and aims (2008)
- economic weights for breeding traits included as an objective in the Benchmarking Project with communication between the PIs of both projects (2008)
- Education and Training Working Group examined all Consortium priority areas with the aim of looking for gaps in Education and Training (2008)
- constructing the Business Plan concept required examination of existing projects; aims and completion dates, to ensure collaboration between projects and reduce redundant expenditure (2008)
- collaboration between Genetics and Market/Supply Chain priority areas achieved between projects which, for different outcomes, all aimed to define condition (2008-9)
    - "A one day workshop to define oyster 'condition' and to review the techniques available for its assessment" (precursor project)
    - "Quality, shelf-life and value adding of Australian oysters", and
    - "Protecting the Safety and Quality of Australian Oysters using Predictive Models Integrated with 'Intelligent' Cold Chain Technologies"
- CDI Pinnacle to undertake the Business Plan project to utilise findings from benchmarking and supply chain projects (2009)
- using supply chain recommendations and marketing strategy to review suitability of Retail Transformation project ahead of Business Plan completion (2009)

- review of CSIRO's sensory evaluation findings and incorporation into the 'condition' project (2010)
- review of SARDI nutritional profile project (glycogen parameter) against 'condition' project and Tom Madigan's 'Quality' PhD
- focus on linking CRC funded projects with external funds available, primarily for extension purposes (2010)

Objective 5: Represent the Oyster consortium at Seafood CRC core participant meeting

CRC roundtables, AGMs and other meetings were attended. They were a valuable tool in gaining update on CRC activities and discussing project concepts with collaborators and R & D providers. In cases where the PI could not attend, an industry member attended where there was not another meeting scheduled at the same time. The list of meetings attended includes:

- AA08 and associated activities in August, 2008, Brisbane
- CRC roundtable meeting, 12-13 May, 2009, Adelaide
- CRC Reporting forum, 9 February, 2010, Adelaide
- AA10 and associated activities, May 2010, Hobart
- Communications hub meeting, 22 June 2010, Adelaide
- Seafood CRC 2010 AGM and associated meetings, October 2010, Adelaide
- Seafood CRC 3rd year review, February 2011, Adelaide

The Consortium held the following meetings:

- March 2008, Adelaide (project prioritisation and general meeting)
- August 2008, Brisbane (market workshop and general meeting)
- March 2009, Sydney (Business Plan workshop and general meeting)
- October 2009, Hobart (Business Plan priorities and general meeting)
- May 2010, Hobart (project reporting and general meeting)
- October 2010, Adelaide (consumer research roundtable and general meeting)
- 2011 – meetings held over until September (with IOS4) while waiting for incorporation of national entity

Benefits and adoption

The sectors benefiting from 2007/715 are the commercial oyster producing sector in NSW, South Australia, Tasmania and Qld and also the commercial bodies servicing that sector; ASI, SOCo and Shellfish Culture.

Adoption of the research managed in 2007/715 will ultimately be measured on completion of the CRC in 2014. On completion of the CRC the oyster industry has the following Objectives (from its Business Plan):

1. To sustainably increase industry production to 20 million dozen, net profit by 10% and industry Gross Value of Production (GVP) to $120 million per annum.
2. To increase oyster consumption by 13% to 0.93 dozen per capita and achieve an 80% satisfaction rating from our markets and customers through the supply of consistently high quality oysters.
3. Through the formation of a national industry organization, build capacity, leadership and confidence in the industry through the services it provides to growers and others.

The Business Plan provides the following justification for co-ordinated management and travel across the industry:

- Current EO support paid at the rate of 0.2 FTE although the role on average involves providing more than 0.4FTE as a minimum.
- Management of R&D projects including reporting, communication of findings, in addition to facilitation, coordination, attendance and reporting on meetings all required activities by an organization such as the Oyster Consortium.
- Directors / Committee person's budget required for travel and attendance at strategic direction meetings.

In practical outcomes, the benefits from 2007/715 can be seen each year at state conferences and field days where a road show of tangible and business profit-focussed research results were communicated. Importantly, leadership in future direction was communicated and growers enthused to adopt findings from R & D results.

Further Development

Further development of the Oyster Consortium model is to take place under project 2010/747 under the banner of a national incorporated entity for the oyster industry (Oysters Australia). The Oyster Consortium will become the R & D Committee of Oysters Australia. It is in this context that 'Further Development' to the 2007/715 model is discussed:

Strategic approach to oyster R & D:
The Business Plan maps investment to 2014. OA's R & D Committee (Oyster Consortium replacement) needs to revisit its budget allocations and priorities following changes to some projects (Retail Transformation) and emergence of new issues (OHsV1). This will need to be done on inception of Oysters Australia

Project development:
Working Groups need to be reconfigured under the new OA structure and utilise skills in the industry (both from amongst and outside state elected representatives) and R & D providers. Project development under OA may also attempt to access funds external to the CRC.

Communications plan:

- Face to face communication will remain most effective, although expensive, at conferences and field days in each state. Field tours (one state per year) are also included in the budget for 2010/747 as a means of individual grower follow up.
- Additional funds need to be sought to workshop selected practical project results (eg benchmarking results) with small groups. A busy grower can easily walk away from a conference/field day with information but not applied to the business. A targeted workshop should help to remedy this. CRC and DIISR Enterprise Connect funds are a potential for this type of work.
- A newsletter (half yearly) needs to be reinstated under the banner of OA to address industry expectations and to inform researchers and funding agencies
- Production of a complementary (to the newsletter) mobile phone video / text will be explored to accompany the newsletter based on feedback that growers found the communication method accessible and effective
- Updates for state executive groups will continue as per 2007/715

Collaboration within projects:
Examining links between projects will shift focus to communication of results in a package of related topics. 2007/715 focussed primarily on forging collaboration between projects in design phase.

Represent the oyster industry:
As the oyster industry completes its CRC investment, it must shift its focus to forging links and like interests with other seafood sectors.

Planned outcomes

Significant project outputs are:

1. completion of a Business Plan
2. 90% committed investment in Seafood CRC with the remaining 10% in project concept under the Business Plan
3. a group of oyster industry members who still communicate readily with each other for a common national outcome with the agreement to form Oysters Australia
4. established annual agenda of CRC content at conferences and field days

The original outcome from project 2007/715 was to "d*eliver a framework for a well managed national oyster consortium, meeting the outcomes specified in the Seafood CRC. The management project will benefit the Australian edible oysters industry by implementing a strategic national approach to commercially orientated R&D . . ."*
This was to involve;

- *the implementation of a National Strategic R&D plan (developed through other funding sources)*
- *a Consortium administrator to represent all oyster parties at core participant meetings in the Seafood CRC*
- *project managers in each state to assist in the development of projects, facilitating collaboration and communication and promoting end user uptake of results*
- *a defined process for researchers and industry to invest in end-user focused R&D*
- *facilitating end-users being able to commercialize R&D as it becomes available*
- *a national collaborative approach to commercialising and extending oyster R&D throughout Australia.*

The planned outcomes have been achieved.

Conclusion

2007/715 has produced:

1. A Business Plan that provides a framework of strategic national oyster industry R & D investment. This strategic approach has been achieved through initially ranking projects against R & D priorities, commission and design of a Business Plan and utilising the Business Plan in project development and approval. A strategic national approach has been maintained through the use of the Plan's priorities as a filter for projects, managing the budget, maintaining Consortium participation, and exploring funds and issues external to the CRC.
   The Business Plan resulted in two main outcomes; Consortium budget prioritisation and the pursuit of a national incorporated entity

2. 90% committed investment in Seafood CRC with the remaining 10% in project concept under the Business Plan. Over 40 'national perspective' projects were developed and commissioned within 2007/715. Degree of PI management in that process varied according to;
   a. the level of Working Group involvement, the R & D providers and the CRC management team (ie the origin of a project concept had a great deal to do with its ownership through to completion)
   b. the proportion of oyster funds committed to projects in the CRC (ie new project work was most prevalent in early CRC)
   c. completion of Business Plan (ie completion of Business Plan changed the role of the Working Groups from an initial scoping role to occasional advisory at the Business Plan's completion)
   d. level of investment in each CRC program (ie Program 2 investment needed more leadership than Program 1 investment)

3. A group of oyster industry members who still communicate readily with each other for a common national outcome with the agreement to form Oysters Australia. The Business Plan provided framework for the formation of a national incorporated oyster industry entity. Approval of 2010/747 is also testament to the successes of 2007/715.

4. Established annual agenda of CRC content at conferences and field days. The ultimate target of Consortium investment is the industry and its improved profitability. 2007/715 contained limited communication resources and involved communication with a large number of practically minded people. The PI identified early on that it was best to spend time communicating with industry. At the completion of 2007/715 the primary form of communication was face to face at State conferences/field days, followed by updates to state executive groups. Use of mobile phone communication was more effective than written newsletter.

References

FRDC project 2007/310: “Seafood CRC: Oyster consortium strategic plan (2007 to 2014)”

CRC project 2009/747: “Can they hear me? Modern and innovative strategies to communicate with the seafood industry”

FRDC project 2009/224 “Formation of the first general national oyster industry incorporated entity”

CRC project 2010/747 (not yet commenced): “National oyster R & D – strategic R & D project commissioning, management and path to commercialization”

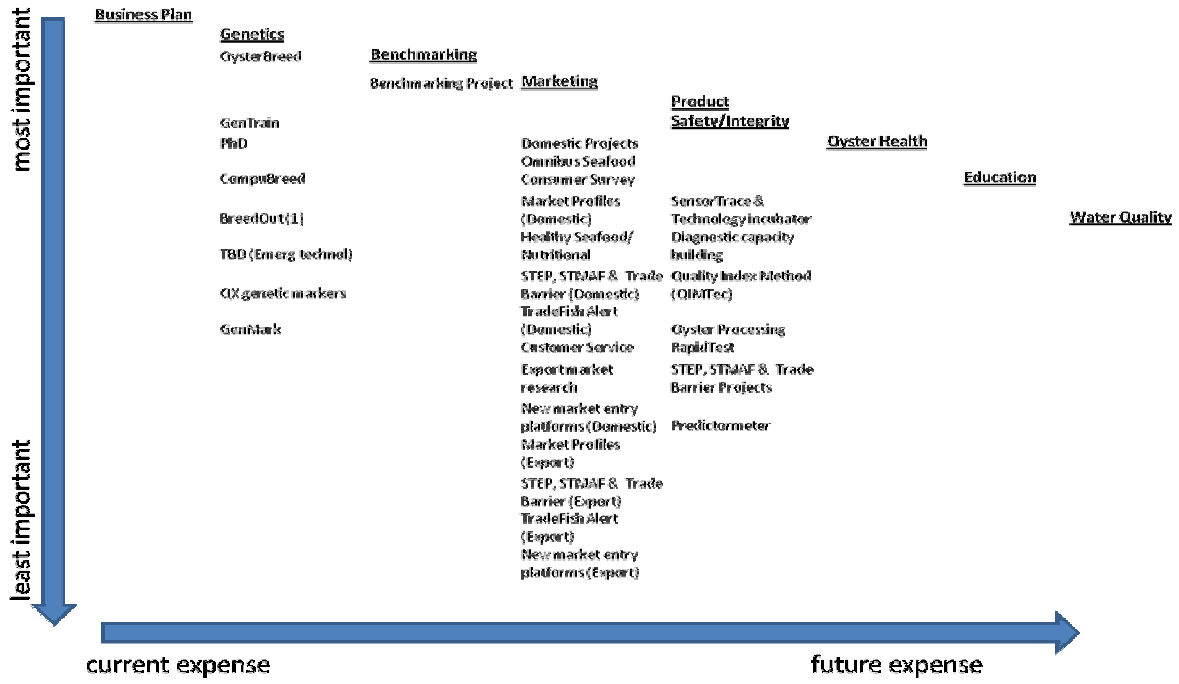
Intellectual Property

There is no Intellectual Property associated with this project

Staff

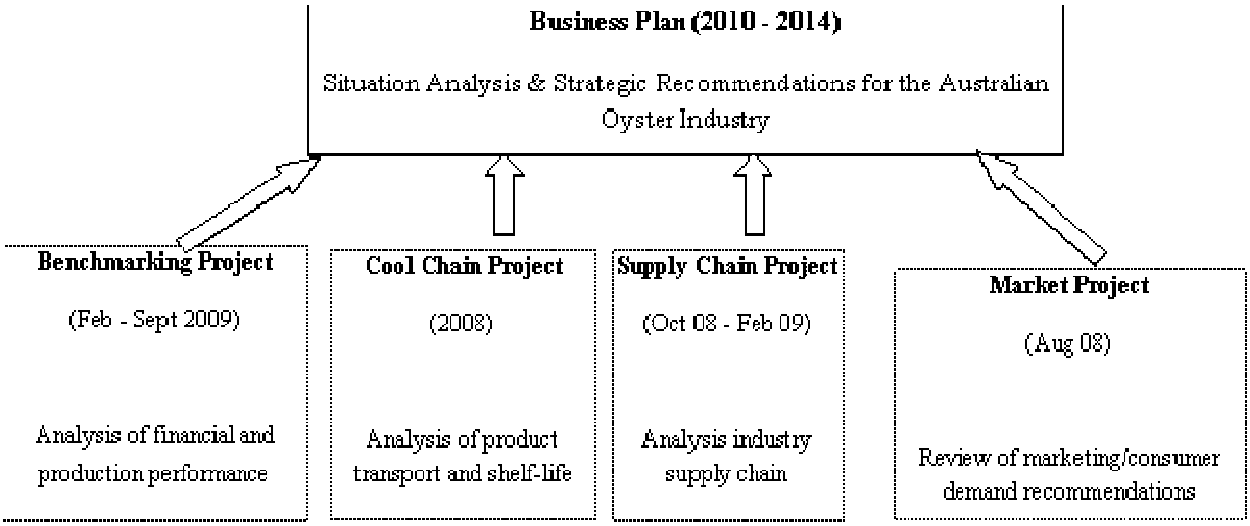
No direct staff. See Acknowledgments for those involved

Appendix 1: Consortium R & D Investment guide preceding Business Plan

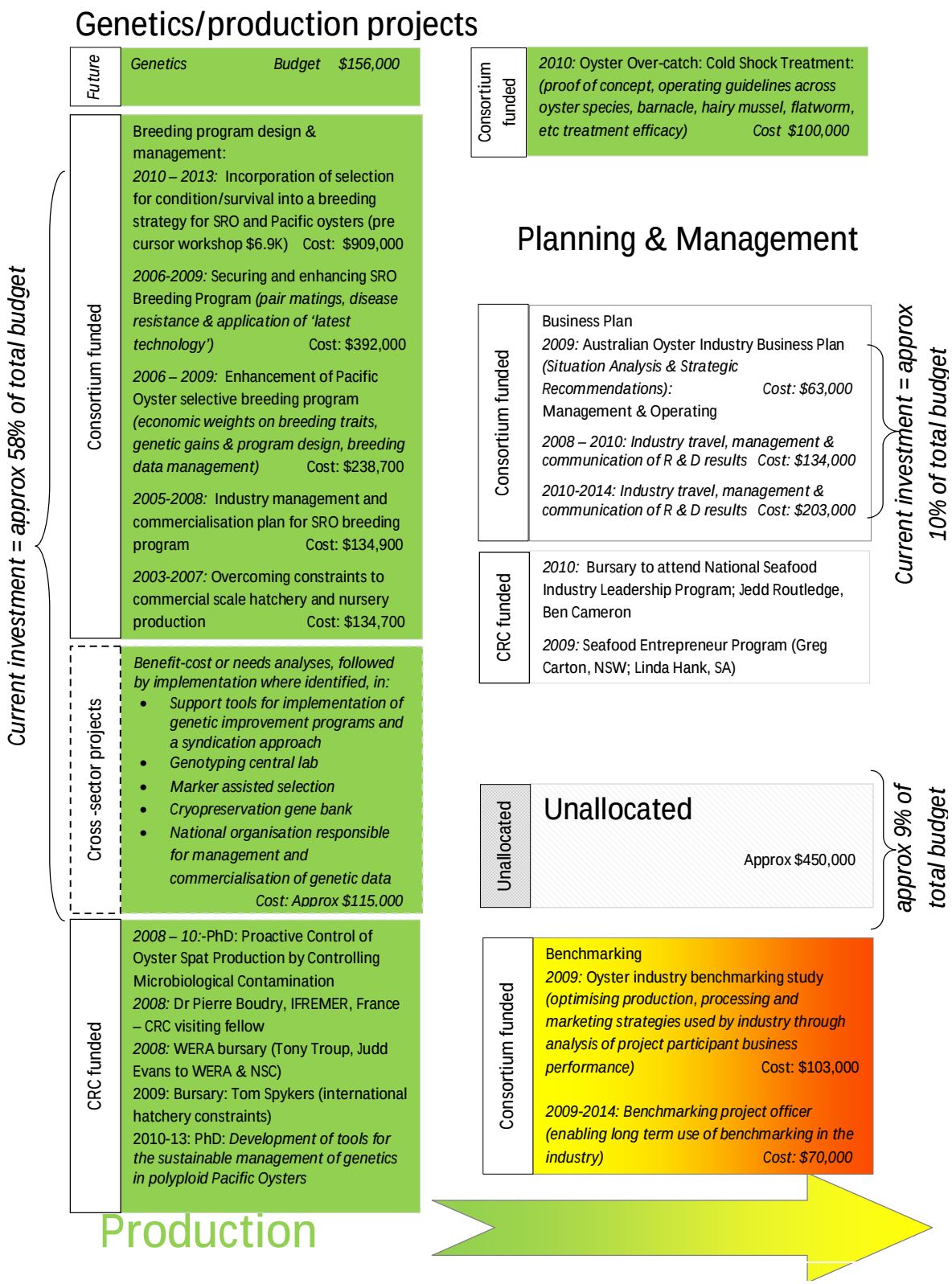


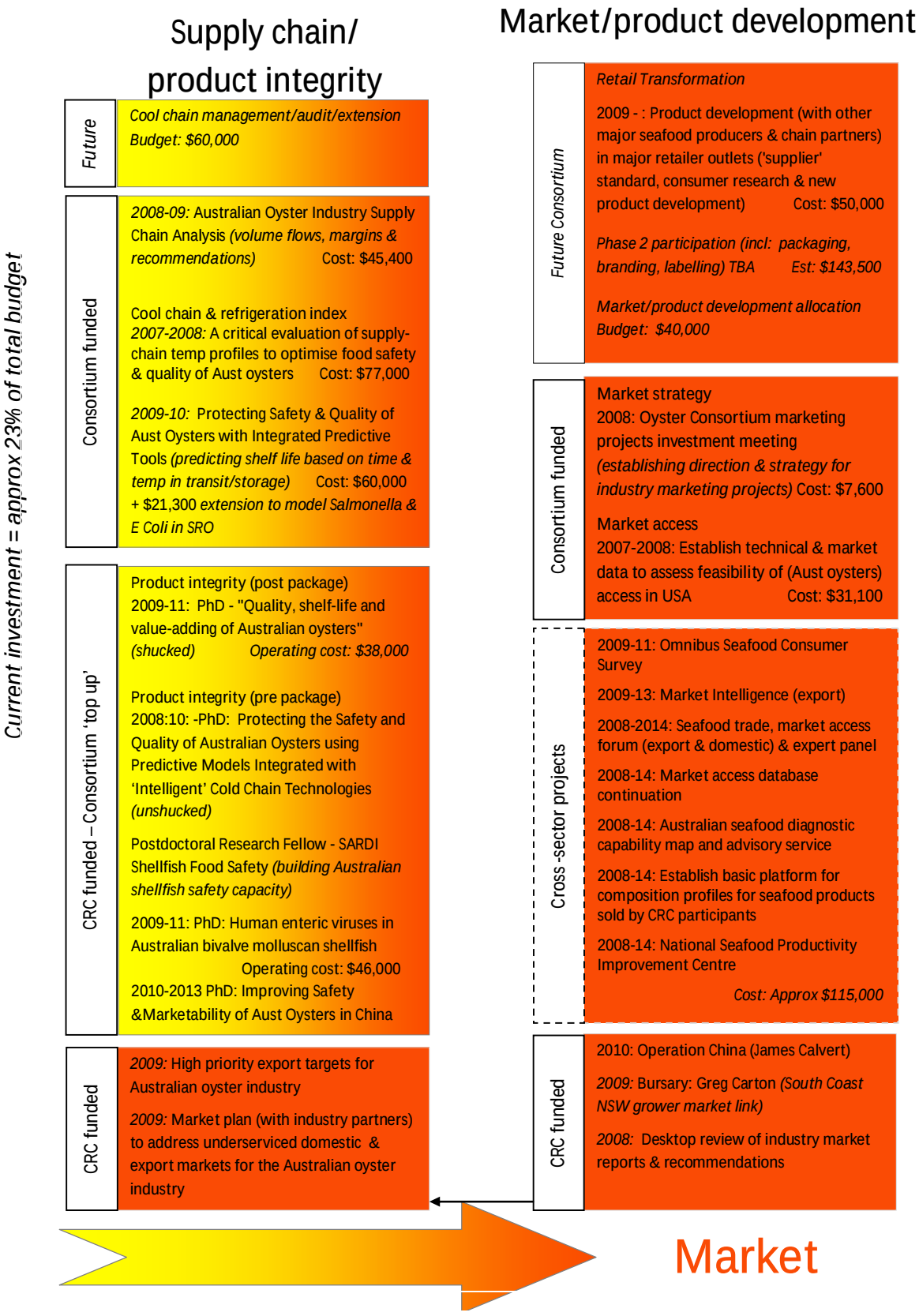
Business Plan needed to guide investment. In interim, existing R & D priorities (and ranked project concepts) used to judge project worth - whether from within Consortium, outside Consortium or from CRC. Also consider value for money ie contributing funds or general purpose funds (eg. E & T budget)

Appendix 2: Business Plan relationship to other CRC funded projects

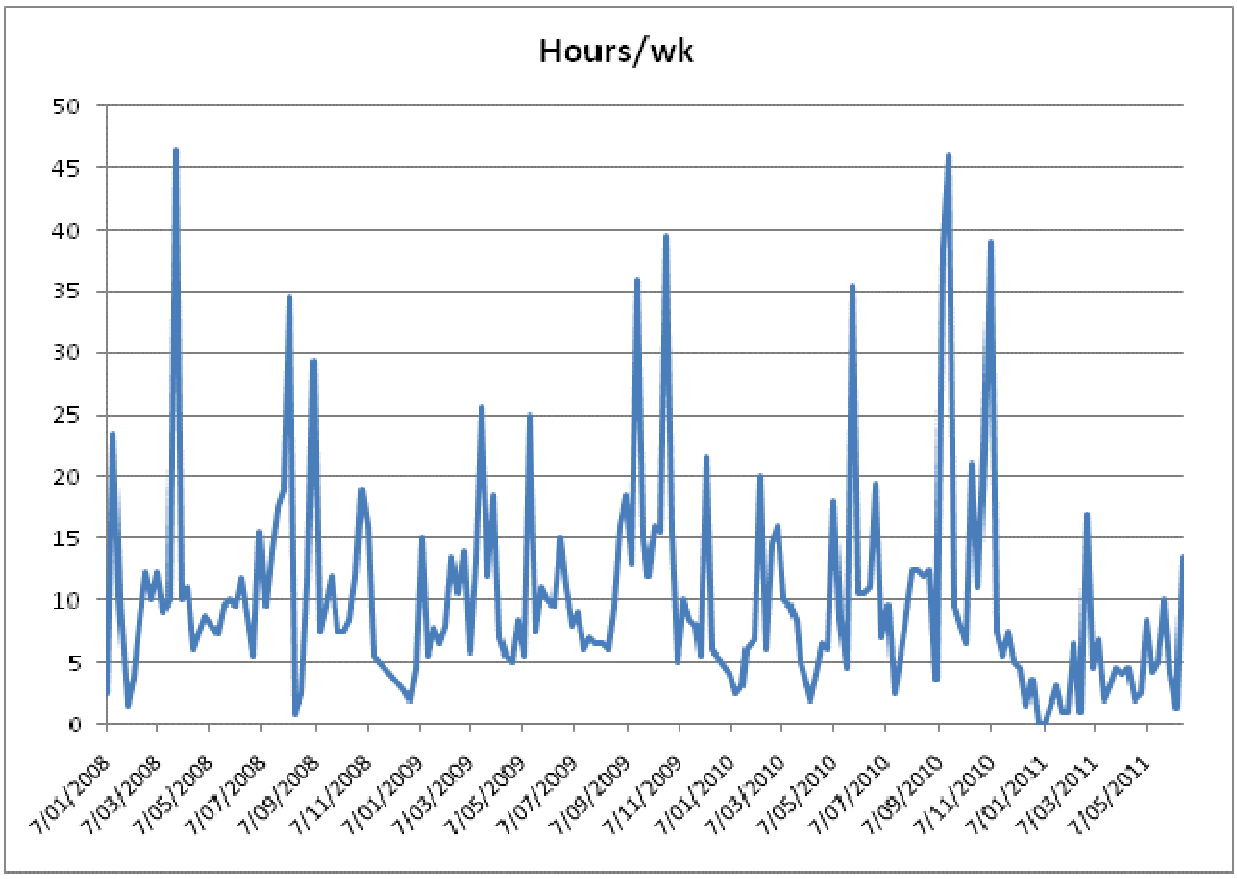


Appendix 3: Strategic map of Oyster Consortium projects




Current investment = approx 23% of total budget
Supply chain/ product integrity
Market/product development
Future
Cool chain management/audit/extension
Budget: $60,000
Consortium funded
2008-09: Australian Oyster Industry Supply Chain Analysis (volume flows, margins & recommendations) Cost: $45,400
Cool chain & refrigeration index
2007-2008: A critical evaluation of supply-chain temp profiles to optimise food safety & quality of Aust oysters Cost: $77,000
2009-10: Protecting Safety & Quality of Aust Oysters with Integrated Predictive Tools (predicting shelf life based on time & temp in transit/storage) Cost: $60,000
+ $21,300 extension to model Salmonella & E Coli in SRO
CRC funded – Consortium 'top up'
Product integrity (post package)
2009-11: PhD - "Quality, shelf-life and value-adding of Australian oysters" (shucked) Operating cost: $38,000
Product integrity (pre package)
2008:10: -PhD: Protecting the Safety and Quality of Australian Oysters using Predictive Models Integrated with 'Intelligent' Cold Chain Technologies (unshucked)
Postdoctoral Research Fellow - SARDI Shellfish Food Safety (building Australian shellfish safety capacity)
2009-11: PhD: Human enteric viruses in Australian bivalve molluscan shellfish Operating cost: $46,000
2010-2013 PhD: Improving Safety &Marketability of Aust Oysters in China
CRC funded
2009: High priority export targets for Australian oyster industry
2009: Market plan (with industry partners) to address underserviced domestic & export markets for the Australian oyster industry
Future Consortium
Retail Transformation
2009 - : Product development (with other major seafood producers & chain partners) in major retailer outlets ('supplier' standard, consumer research & new product development) Cost: $50,000
Phase 2 participation (incl: packaging, branding, labelling) TBA Est: $143,500
Market/product development allocation
Budget: $40,000
Consortium funded
Market strategy
2008: Oyster Consortium marketing projects investment meeting (establishing direction & strategy for industry marketing projects) Cost: $7,600
Market access
2007-2008: Establish technical & market data to assess feasibility of (Aust oysters) access in USA Cost: $31,100
Cross -sector projects
2009-11: Omnibus Seafood Consumer Survey
2009-13: Market Intelligence (export)
2008-2014: Seafood trade, market access forum (export & domestic) & expert panel
2008-14: Market access database continuation
2008-14: Australian seafood diagnostic capability map and advisory service
2008-14: Establish basic platform for composition profiles for seafood products sold by CRC participants
2008-14: National Seafood Productivity Improvement Centre
Cost: Approx $115,000
CRC funded
2010: Operation China (James Calvert)
2009: Bursary: Greg Carton (South Coast NSW grower market link)
2008: Desktop review of industry market reports & recommendations
Market

Appendix 4: Hours per week on project since commencement



Appendix 5: Extract from example Consortium news (Sept-Jan 09)

AUSTRALIAN SEAFOOD COOPERATIVE RESEARCH CENTRE

The Consortium Latest . . .

. . .on your R & D dollar investment

Oyster Consortium

A R & D co-operative of the Australian oyster industry

projects under consideration

The Australian Oyster Industry business—2010-2014

Planning for the next 5 years in the oyster industry, to the end of the CRC, is the next big project on the table.

This is not just a strategic plan. The Business Plan aims to **facilitate industry growth, value and increase farm profitability.**

Each state has varying degrees of strategic plans. This plan will be used to guide industry advocacy, policy and R&D groups at a state and national level. This will occur via national prioritised strategies and objectives for the following key areas:

- Market development
- Production efficiencies
- Supply chain management
- Environmental sustainability
- Community perception
- Industry structure
- Human capital
- Regulatory environment
- Financial performance

How can you have your say?

⇒ At a meeting in your state

⇒ Through your state organisation, the Oyster Consortium and SICOA

How will you hear what's in the Plan?

⇒ Through your annual field day or conference in your state (Sept—Oct 2009)

⇒ Your state organisation

If approved, the project will begin in February and run by a group of CRC participants headed by an independent consultant/economist with overseas shellfish industry representation and leadership expertise.

The CRC participant group includes individuals and entities specialising in seafood production, value chain, market, marketing and consumer- focus issues and business models.

This issue:

Cool chain project completed revealing what is happening to oysters from each state on their road to market (pg 4-5)

Bring shellfish safety world meet to Oz?

The Oyster Consortium has expressed its interest and support of Australia hosting the International Conference of Molluscan Shellfish Safety (ICMSS) in 2013.

This follows the same level of interest expressed at a meeting of the Australian Shellfish Quality Assurance Advisory Committee.

Sydney held the very first ICMSS 10 years ago.

The move to hold the conference here will provide many opportunities:

Highlight Australian shellfish production internationally

Highlight Australian shellfish safety capability and engage international players in negotiation (trade, etc)

International collaborative research and program development

If the bid to host the Conference at ICMSS in France, June 2009 is successful, the Consortium will take part in the planning.

Inside this issue

The Australian Seafood CRC is established and supported under the Australian Government's Cooperative Research Centres Programme. Other investors in the CRC are the Fisheries Research and Development Corporation, Seafood CRC Company members, and supporting participants.

REPORT 3—SEPT - JAN 09

What is happening on the truck?

Many growers get the phone call from their processor or retailer claiming that the oysters they bought over the phone are not what has arrived. The payment will be reduced. What happened?

A problem that nearly all growers face is the loss of control over their product once stock is transferred to the transport chain. A grower can suffer heavy product losses and complaints of short shelf life.

Australian Seafood CRC project (2007/700): *"A Critical Evaluation of Supply-Chain Temperature Profiles to Optimise Food Safety and Quality of Australian Oysters"* **aimed to improve food safety and quality of transported live oysters**. The project, which was led by Tom Madigan from the South Australian Research and Development Institute, has been completed with findings and recommendations for the oyster and transport industry.

To achieve its main aim the project involved;

* planting temperature data loggers (iButton®) with stock before shipment,
* analysing results compared to ASQAP storage temperature requirements,
* testing spoilage rates of Pacific Oysters and Sydney Rock Oysters at different temperatures,
* trialling storage temperature stability in a number of different packaging and storage alternatives

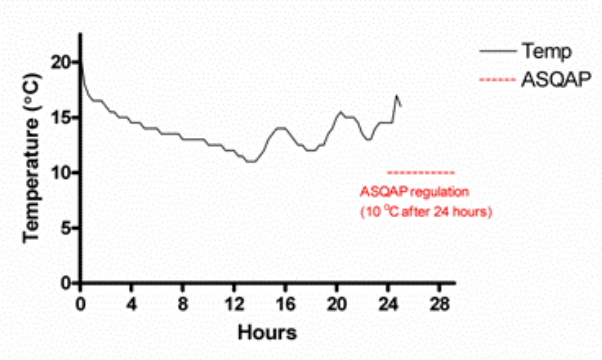
Most temperature abuse (mostly too cold) was found in long and complex transport. Differences between states and species were found with SA having the longest and most complex transport chains and NSW the shortest involving the least refrigeration.

Summary of responses (to questions on transport and storage) by state:

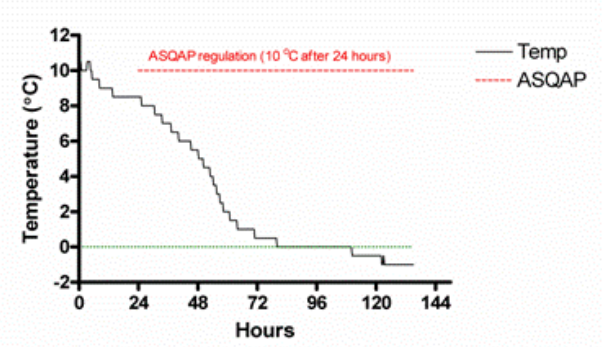
Growers	NSW*	Tas*	SA*
Using a chiller	30%	56%	89%
Using refrigerated transport	59%	88%	98%
Requesting transport at ambient temp	28%	0%	0%
Average longest transport	24hrs	69hrs	72hrs
Using distribution centres/ depots	24%	67%	82%
Lost product to heat abuse	7%	28%	36%
Lost product to cold abuse	19%	44%	18%

*Total returned surveys 121. Not all respondents answered all questions

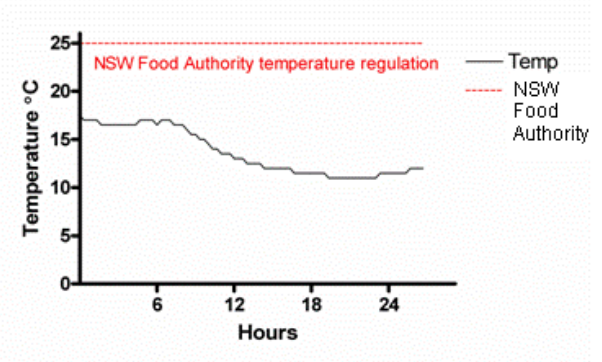
Knowing temperature changes in the supply chain allows problems to be pinpointed avoiding future losses. Following are examples of temperature recorded during transport.



Temperature profile of a Pacific Oyster cool chain showing heat abuse



Temperature profile of a Pacific Oyster cool chain showing cold abuse

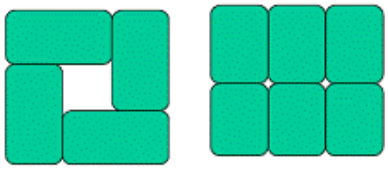


Temperature profile of a Sydney Rock Oyster cool chain

Solutions

A number of **solutions** were looked at and **recommendations** made:

- Transport companies to offer temperature logging as part of their service
- Industry to continue using temperature loggers to track performance of transport and distribution centres and reduce their losses
- Industry to clearly instruct transport companies what the storage temperature should be
- Stack pallets with a column up the middle allowing quicker cooling before transport and avoid dropping boxes to reduce stress on the live oyster



Reduced density packing for quicker and more even cooling (left) than inferior pack method (right)

- Consider the use of insulated pallet blankets to reduce the impact of sudden temperature fluctuations, This is only viable for use with product that is adequately cooled prior to collection
- Industry and transport companies to investigate technology being considered for use in the strawberry industry (QpodTM); a refrigerated pallet sized container that maintains product at optimum temperatures and negates the need to use refrigerated transport
- Temperature profiles collected in this project will be used to assit in creating a predictive tool for *Vibrio parahaemolyticus* (the causative organism of many seafood related illnesses) levels and their effect on safe shelf life (CRC 2007/719: Protecting the Safety and Quality of Australian Oysters with Integrated Predictive Tools).
- Food safety effect of different storage temperatures in use between Sydney Rock Oysters (15oC after 72hours) and Pacific Oysters (10oC within 24hours) was validated and will be confirmed in the Vibrio study before changes are made to AQIS regulations.

*This article is based on the contents of the **draft** final report for Project 2007/700: "A Critical Evaluation of Supply-Chain Temperature Profiles to Optimise Food Safety and Quality of Australian Oysters".*

Using an iButton® data logger

Technology

Availability: Temperature loggers used in this study were DS1921G Thermochron® iButton® temperature recorders (Maxim, California, USA) purchased from http://www.homechip.com/catalog/ as they are relatively inexpensive and simple to install and use. Available through a variety of sources eg. manufacturer's web-site: http://www.maxim-ic.com/

Design: Computer chip enclosed within a rugged stainless steel case that measures temperature and records the result in a protected memory section at a user defined rate. Interfaced via a standard personal computer using a USB attachment (DS9490R - USB 1-Wire / iButton Adapter) and a docking port (DS1402D-DR8 Blue Dot receptor iButton reader cable).

Software & data: Freely available software, available at the Maxim website: http://www.maxim-ic.com/products/ibutton/software/tmex/download_drivers.cfm , is used to either generate a quick graph of the data, or data can be exported as text files and can be imported to Microsoft Excel as comma separated files. iButton® keyfobs are used to secure the loggers if required.

Logging Process

- Contact your customer to ensure that they are willing to return the temperature loggers.
- Set the logger to record data every 20 minutes using the free software, (ensure that the box to roll data over is not ticked when setting the logger mission).
- Record all information about the shipment to be profiled, eg. time the logger is placed in product, expected times of any depot changes, estimated time of arrival to customer. This information will allow identification of temperature abuse location.
- Attach or place logger within a bag or box (with wire if using a key fob or placed in a snaplock bag if not).
- Do not advise the transport company that there are loggers contained within the shipment, as they may not treat product in the usual manner.
- Contact the customer and advise of when the logger will arrive and what bag it is in within the shipment.

Consortium members & main representatives

Australian Seafood Industries Pty Ltd
Matt Cunningham

NSW Aquaculture Research Advisory Committee
Tony Troup

Select Oyster Company Pty Ltd
Ray Tynan

Shellfish Culture Ltd
Richard Pugh

South Australian Oyster Research Council Pty Ltd
Mark Jarvis
Judd Evans (for SAOGA)
Jan Lee
Gary Zippel

Tasmanian Oyster Research Council Ltd
Hayden Dyke

Many other industry members from NSW, SA and Tas are involved in the Consortium from time to time and through working groups:

* Genetics
* Benchmarking
* Marketing
* Health & Safety
* Education & Training
* Business Plan

Consortium contact:
Rachel King
Executive Officer
E: rkoyster@yahoo.com.au
M: 0425 237 566
Ph: 02 8006 0498

www.seafoodcrc.com

Who is Cath McLeod?

Cath McLeod is a CRC funded Senior Scientist (Shellfish Food Safety) at SARDI.

Cath has a wealth of international experience in shellfish safety, particularly in toxins and viruses, is most well known in NZ and we were successful in attracting her to Australia from the UK in August.

Cath in action in Port Lincoln.

The main aim of Cath's work is to protect Australia's trade access and the food safety of Australian shellfish. Her four main tasks are to:

1. Build research & rapid diagnostic capability in shellfish virology and marine biotoxins
2. Establish national shellfish safety capability providing timely diagnostic services for enteric viruses and marine biotoxins
3. Provide specialist technical advice to resolve domestic, export and import related trade and market access barriers in existing markets
4. Provide specialist technical advice to inform trade and market access standards development, nationally and internationally

If you meet Cath you'll know that she's bent on delivering a first class shellfish safety program for Australia!!

Breed for condition? What about flavour?

If Australia's oyster breeding programs breed 'faster, fatter oysters' will we forget flavour? Will we be breeding big tasteless oysters to be eaten alongside overgrown chicken and bland tomatoes?

This question was thrown up during a Consortium funded workshop held in November. The workshop was designed to define oyster 'condition' and to review the techniques available for its assessment ahead of the Consortium's next phase of investment in genetics.

Both ASI and SOCo know that adding condition as a selection criteria is part of the next phase of their breeding programs. A project is on the table to establish a measurable definition of condition so that it might be built into breeding programs.

The workshop included members of industry, hatcheries, breeding programs, researchers and marketplace. A series of objective tests for condition were tabled as the best assessments for condition: meat:shell ratio scores and other tests not currently used (chemical and imaging), along with subjective measurements.

But those at the workshop saw the upcoming project as a good chance to assess whether or not market quality characteristics (flavour, texture, etc) can be added to the definition of condition and incorporated into the breeding program selection criteria. While assessing flavour can be just as difficult as assessing condition, many around the table felt that condition and flavour are characteristics that go hand in hand in the marketplace.

The next task for Consortium members will be to build a project that aims to establish a measurement for condition along with 'sensory' characteristics for use in breeding programs —a tall order!

Appendix 6: Example State Executive update (November 2010)

Seafood CRC R & D $ investment update

Benchmarking: 'Round 1' project results have been released and the project will be extended until the end of 2011 to include 2008-09 and 2009-10 financial year data. New growers are invited from in Round 2 but not Round 3 and a $500 fee paid before Round 3. Investigation has begun on the use of DIISR funds (Enterprise Connect) for further extension via small groups focussing on specific profitability issues.

Genetics: CSIRO's sensory analysis of oysters was used by growers in SA & Tas in September and NSW in October to taste differences in oysters from around Australia. Elements of CSIRO's work are planned to be used in the '*Condition & survival*' project to check for any taste deterrents while breeding for condition. CSIRO are also forming a proposal for the CRC to extend the CSIRO funded work to include SRO and refine the 'language' to enable use as a marketing tool.

Consumer research (& Retail Transformation): Consumer research results (either or both EBI of Colmar Brunton's results) were communicated at state meetings. The results and their implications were also the main focus of the Consortium's 15 Oct meeting. A number of oyster specific questions were asked of the general seafood results. These have been investigated (with EBI) and the following market breakdowns calculated (TBC):

No. oyster purchases by location (for both in home & out of home consumption):

	Supermarket	Fish shop (selling either/both fresh & cooked seafood)	Restaurant	Club, function centre, hotel	Fish market	Friends house *(eaten at)*	Other
fresh/other	16%	22%	16%	14%	8%	6%	13%
canned/smoked	6%						

Further information will be provided shortly for the Oyster Consortium along with some project concepts addressing markets in addition to the supermarket.

Predicting shelf life and $ savings: The refrigeration index (predictive tool for Vibrio based shelf life) has been completed and examples of where it can be used were presented at state conferences in September. Financial forecasts of $ losses from refrigeration cooling times and temperatures were also given. SA & Tas businesses will be approached to work with Mark Tamplin to implement some of the findings. NSW businesses are mostly SRO or have short legs to market and are unlikely to be involved in the refrigeration component of the project.

Budget: Remaining unallocated: $548,000. Some cost savings on forecast project costs increased amount available from approx $337,000.

'Extension': Over 200 growers heard CRC funded results between September and November in NSW, Tas, SA. Both the Consortium and the CRC have registered the need to undertake effective extension in the final years of the CRC. Face to face contact is by far the most effective (although expensive) in the oyster industry. External funds will be needed for any oyster specific extension other than presentation at state meetings. Cross sector CRC funded extension opportunities will be sought but will have limited use for oysters.

CRC extension: As the CRC approaches its mid term review it is also considering life after the CRC. A 3 year extension rather than a 7 year extension is likely. In a participants meeting on 27 Oct there was talk of market/product development and climate change production impacts forming the focus of an extension. No decisions made.

Additional CRC investment: Additional costs for running a shellfish hatchery forum were approved by CRC but the bid for additional funds was unsuccessful at this point (not a closed door).

Summary main dates
Early 2011 Incorporate Oysters Australia