Training Needs Analysis of Seafood CRC Industry Participants

By Dos O’Sullivan (Dosaqua Pty Ltd)

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NON-TECHNICAL SUMMARY AND RECOMMENDATIONS TO CHECK

2008/755 Training Needs Analysis of Seafood CRC Industry Participants

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OBJECTIVES:
The objectives of the Training Needs Analysis (TNA) are to:
• Survey more than 40 businesses to identify broad company training needs.
• Determine what training could be required to develop and implement the expected R&D outcomes from the CRC Theme Business Plans and other activities.
• Determine what participant training needs are already addressed in the higher education (Universities) and vocational education and training (VET, eg. TAFEs & private/industry RTOs) sectors.
• Determine what participant training needs the CRC has the capacity and skills to develop and provide inhouse.
• Determine what participant training needs the CRC can collaborate with other training providers to develop and implement.

OUTCOMES ACHIEVED TO DATE:
• Skills based industry training needs have been identified for CRC industry participants and mapped against existing courses and workshops offered by training institutions within the CRC.
• Whilst underway the research received encouraging response by industry, training managers and other beneficiaries.
• Data of industry training needs from 49 CRC industry participants (+ another 5 businesses) are collated in a form that allows easy analysis.
• Data on training provided for these skills by three CRC member training institutions are collated in a form that allows easy analysis.
• MORE?

A TNA survey listing a total of 69 different skills under 6 skills sets was distributed to more than 80 industry businesses associated with the CRC. Overall 43% were considered high priority (i.e. selected in >25% of responses) and 16% were considered critical (>50%). The data clearly shows which skills industry considered as critical to the success of their businesses.

Only seven of the 22 industry specific skills within the skill sets Production Systems & Infrastructure Management and Production and Operations are identified as critical or high priority. None of the skills in these two skill sets scored higher than 39% (Production Planning). The next highest was Infrastructure Management (35%). However, the research still indicated a need for skilled people who can manage the people or work teams involved in normal production and operational activities.

The equal second highest skills score was for Occupational Health and Safety (61%), no doubt due to the legislative requirements for workplace safety in all states and territories. Another risk-skill - Infrastructure Emergency Procedures - scored 52% (26% for both ‘All Levels’ and ‘Manager’). Due to the compliance requirements of most of the Risk Management skills, the majority of the
training was categorised as critical at ‘All Levels’ (75% of the risk-skills listed were considered high or critical priority).

In further support of the fact that industry training focuses on compliance-based skills, the highest scoring skill was for Licensing and Compliance Requirements (including Corporate Governance) which scored 65% - that means that two in every three respondents considered this skill a priority!

For the skill set Harvesting and Post Harvest, only 40% of the skills scored above 25%, and none 39%, however, there is still unmet demand for post harvest training in the food safety, sales and marketing areas. This suggests that there is a need to continue to undertake a lot of basic training in this area and then encourage people in the industry to look seriously at value adding innovations (of which there could be several resulting from CRC R&D programs).

The most significant finding is the high number (8 of the top 10 responses) of skills seen as critical within the more generic skills sets of Working Effectively & General Administration (92%) and Business & Strategic Management (91%). Over one-third of the skills contained in each of these skills sets were considered critical for training and over half were considered high priority.

Whilst there are significant training needs in many skill areas, the good news is that training in most of those areas is readily available – some provided by training providers within the CRC (Table page 23 ^^), in addition there are several non-CRC training institutions which are servicing this need. The question as to the exact suitability or relevance to the industry was NOT considered in this research. Further examination of the training on offer is required.

The other standout result is the focus of the priorities for training at the ‘Manager’ level (30), although there were 13 selected for ‘All Levels’ and one for ‘Middle’ – a combination of ‘Foreman’ and ‘Senior Technician/Specialist’.

Followup research has been recommended to expand the datasets on training needs as well as on the training offered by member Universities and TAFEs as well as other training providers.

The most important recommendation is for the CRC’s education and training program team prepare a list of 5 or so potential courses and then re-survey the participants and see which ones they are interested in. Opportunities for external funding (eg. Farm Ready) should be utilised where possible.

Also important is the determination of the most appropriate way in which the CRC can find providers willing to customize their existing courses for the seafood industry and offer them through the standard competency-based arrangements (an extension could be lining these to credits for University degrees or other qualifications).

This research will directly benefit the CRC industry participants as well as the CRC training institutions. It is anticipated that the research will increase the dialogue between these groups and result in customised training in the identified critical and high priority areas. Other benefits can include facilitation of the formation of regional ‘training incubators’ or ‘benchmarking groups’ for greater collaboration in training and other development initiatives.

Benefits are likely to flow to other industry members as well as other trainers working with the seafood industry.

**KEYWORDS:** Workplace Training, Skills Development, Training Needs, MORE.
ACKNOWLEDGEMENTS

The following people contributed to this project:

- CRC Project Management, including:
  - Roy Palmer - palmerroy@hotmail.com or mobile 0419 528 733.
  - Emily Downes - emily.downes@seafoodcrc.com.au or phone 08 8201 7652.

- CRC Technical Support including Rebecca Wilson and webmaster Georgie Rogers.

- Consultant: Dos O’Sullivan - dos@dosaqua.com.au or mobile 0418 130-595.

The report would not have been possible without the input of a large number of industry and training people. Their involvement is an endorsement of the growing support that the seafood industry can be improved through targeted workplace training and professional development (WT&D) for staff and management.
1. INTRODUCTION

1.1 Background

One of the priority activities of the ‘A, B, Sea’ Theme Business Plan, is to determine the training priorities for its industry participants. As part of this activity, it is also crucial to determine what training could be conducted for its industry participants by its higher education (university) members and within the VET (TAFEs and private/industry RTOs - registered training organisations) sectors.

A number of PhDs and Post Doctoral Research Scientists are being offered through the universities and processes have been introduced into the CRC to manage this program. To conduct this activity, resources were needed to assist in the development and implementation of workplace training and professional development (WT&D) for staff and management of the CRC company members.

The use of a Training Needs Analysis (TNA) to determine the WT&D of CRC members was considered the right approach to determine exactly what training was needed. Upon completion of the TNA, the CRC would have a clear understanding what its participants needed and then they could be advised of the training opportunities offered directly by the CRC as well as the training that is provided by the CRC university participants and registered training organisations (RTOs) members. The TNA also has the benefit of allowing the CRC to determine how it can assist RTOs with updating or enhancing their current programs to suit CRC members.

Earlier in 2008, a pilot project (2008/706 – Training Needs Analysis) conducted by Lonsec Ltd was undertaken with two CRC participants in close collaboration with the CRC’s Industry Training Theme Leader Roy Palmer (DOS the author of this report also participated in that project working with Lonsec).

Following consultation with industry and training providers in this pilot project, a 5-stage process was developed for CRC participants to identify and implement targeted staff and business development training. The 5 stages were:

- **Stage 1: Company Training Needs Analysis** – online, 15-20 minutes, free for CRC members
- **Stage 2: Training Workbook — Developing a Training Plan** – hardcopy, 40-90 minutes, free for CRC members
- **Stage 3: Consulting with a Training Advisor** – subsidised face-to-face or phone/email advisory services
- **Stage 4: Implementing the Training Plan** – subsidised face-to-face or phone/email advisory services
- **Stage 5: Training review and assessment** – subsidised face-to-face or phone/email advisory services.

A two-page introduction was prepared to explain this process and to provide CRC participants with useful contacts for CRC Training Advisors.

The pilot project’s tools and 5 stage plans were then tested with Clean Seas Tuna Ltd (CST, a marine fish seacage farm in South Australia) and ASAE Pty Ltd (ASAE, a Rainbow Trout farming operation in Victoria planning to undertake inland saline aquaculture of Rainbow Trout in southern New South Wales). Both companies quickly completed Stages 1 and 2 and a draft Training Plan (Stage 3) was developed for their use. Examples of these documents were provided to the CRC as
well as each company. The feedback and assistance from managers at both companies is acknowledged as a major benefit for the project’s outcomes.

Managers from both CST and ASAE expressed support for the process, saying it was “straightforward and logical”, “replicable” and “sensible and systematic”.

1.2 Need

The 5-stage approach also supported by the National Aquaculture Council, the peak body for the aquaculture sector of the Australian seafood industry. It was determined that the approach would also be useful to other sectors such as fisheries and processing.

The need for the TNA is further enhanced through the Seafood CRC’s theme business plan 'A, B, which has 2 important outcomes that are reliant on the TNA namely:

- CRC industry participants have the necessary skills to implement and maximise the results from CRC R&D for use in their businesses, and
- Seafood CRC participants have an improved ability to attract, train and retain staff.

Thus CRC participants need to be provided with assistance in identifying strategic WT&D, particularly those which set within the CRC priorities and linked to the commercialisation of the CRC’s R&D outcomes from the three other research theme business plans:

- Production Innovation Research Program
- Market and Product Development Research Program
- Commercialisation and Utilisation Program.

The Seafood CRC further established the importance of this project by specifying that completing the TNA was a prerequisite to accessing CRC research and education funds.

Finally the project would determine how these training needs were already covered by courses or workshops offered by higher education (universities) and VET (TAFEs and private/industry RTOs - registered training organisations) sectors. The CRC needs this information to determine what funding it can provide to industry participants through the following E&T options:

1. Internal CRC training offered by institutional members (UTas/AMC, Adelaide Uni, UniSA, Flinders Uni, Curtin, USC) or other business members.
2. Customising, updating or enhancing existing programs training by external Universities, RTOs and private providers.
3. CRC working collaboratively with Universities, RTOs and private providers to provide new training options.
4. Customised training to be offered by non CRC business and institutions.
1.3 Project Objectives

The objectives of the TNA are to:

- Determine what training could be required to develop and implement the expected R&D outcomes from the CRC Theme Business Plans and other activities.
- Determine what participant training needs are already addressed in the higher education (Universities) and vocational education and training (VET, eg. TAFEs & private/industry RTOs) sectors.
- Determine what participant training needs the CRC has the capacity and skills to develop and provide inhouse.
- Determine what participant training needs the CRC can collaborate with other training providers to develop and implement.
- Survey more than 40 businesses to identify broad company training needs.

1.4 Project Team

- CRC Project Management:
  - Roy Palmer - palmerroy@hotmail.com or mobile 0419 528 733.
  - Emily Downes - emily.downes@seafoodcrc.com.au or phone 08 8201 7652.
- CRC Technical Support including Rebecca Wilson and webmaster Georgie Rogers.
- Consultant: Dos O’Sullivan - dos@dosaqua.com.au or mobile 0418 130-595.

1.5 Terms of Reference:

The following activities are to be completed:

Review participants' website access to Company TNA Scoping Survey (on Survey Monkey)

1. The CRC ran a ‘dry run’ of the training needs analysis approach (developed from the 2008/706 pilot project).
2. Develop and implement a Communications Strategy and prepare support communication materials to encourage participant involvement
3. Determine Training Needs of at least 20 selected CRC participants
4. Determine how these training needs are covered by short courses or workshops offered by Universities and VET sectors, including:
   a. Internal CRC training (UTas/AMC, Adelaide Uni, Uni of SA, Flinders Uni, Curtin Uni and USC as well as other organisations or business)
   b. Existing training within external Unis and RTOs/private providers
   c. Collaboration by CRC with training providers for customised training courses or workshops.
5. Provide a report to the CRC with a list of participant training needs and recommendations on how these can be met.
1.6 Outputs, Extensions and Intellectual Property

Outputs and extensions included:

- Confirmation of CRC training needs based on theme business plans.
- Development of materials and tools to assist CRC participants, eg. FAQ, Communication Script, etc.
- Wide CRC participant input into TNA through the Survey Monkey (with continual improvement of the survey).
- Comprehensive list of industry training needs.
- Identification of training providers and the applicable courses or workshops they offer.
- These would be summarised in a report and the data would be available online.

No intellectual property was identified – the project information and results would be available in the public domain – they would be published, widely, disseminated and promoted, and/or training and extension provided.

1.7 Requirements:

The following resources and support were required from the CRC:

- Workspace, computer and phone access are required for DOS at the CRC office for several tasks (this could take around 3-5 days). This will facilitate an efficient approach working with the CRC E&T team.
- Access to CRC participant database.
- Administrative and technical support in undertaking various tasks as outlined below specifically 1.1 (Trial Run), 1.2 (Survey update), 1.3 (website access), 1.4 (Dos’s access), 2.1 (Program Manager’s input on training requirements), 2.2 (communications), 2.5 (checking communication materials), 2.6 (communications), 2.7 (industry hit list), 3.3 (database update), 5.1 (review of draft report).

1.8 Risk Analysis

Threat: Lack of interest by CRC participants due to previous poor experiences with training results in low sign-on to project.

Contingency: Provision of targeted advisory services and other support materials.

Threat: Participants have little/no E&T resources (time and dollars) due to poor state of seafood industry.

Contingency: Provision of CRC funded services for advisory assistance as well as funds for prioritised WT&D.

Threat: Demand for WT&D unlikely to result in strategic industry benefits.
Contingency: No WT&D will be supported unless it comes within CRC priorities and has been identified within organisation's TNA.

Threat: Demand for CRC WT&D greater than CRC budget allows.

Contingency: Other funding sources being examined for applicability and information provided to CRC participants on how to access those funds. Negotiations with training providers would need to be made for 'best' rates for CRC participants.

1.9 Project Timetable

In the project application, the project consultant identified the CRC resources and input required to ensure the project quickly and efficiently achieves its aims.

To assist in the rapid implementation of the CRC’s E&T TBP, this project was due to be started in early November 2008 and timetabled to run over a total period of six weeks. However, there were some holdups in the projects initiation, and delays were incurred due to the busy trading times for seafood businesses over the Christmas and Chinese New Year periods.

The project was completed in March, 2009.
2. METHODS

2.1 Project Methodology

A five-step project methodology and time schedule was agreed upon with the CRC Project Management Team and fully implemented:

1. Review participants' website access to Company TNA Scoping Survey (on Survey Monkey)

   1.1 CRC to run web based trial by inputting answers supplied by CST & ASAE plus two hypothetical scenarios for processing and retail (two others were added during the project initiation – fish and chip shop and a family-based fishing business)

   Questions to determine:
   - Is it up and working?
   - How does the Survey Monkey collate and return responses?
   - Will it provide data in a way that is useful to the CRC and the WT&D Program?
   - Does it allow all members of the CRC to input into WT&D (eg. retailers, wild catch, processors)?

   1.2 Dosaqua to analyse results and make recommendations to CRC E&T team for improvements to the Survey including preferred WT&D level, eg. sector, business unit, work team or individual or mixture of these levels.

   1.3 CRC to set up website access for all CRC participants (access to Survey Monkey) and upgrade survey.

   1.4 CRC to establish external access permission for Dosaqua to access input from CRC participants to survey, access is tested.

2. Develop and implement a Communications Strategy

   2.1 CRC program managers to identify CRC R&D outcomes requiring training.

   2.2 CRC to communicate with industry participants about the TNA, eg. CRC newsletter and website.

   2.3 Based on 2.1 & 2.2 Dosaqua to develop a FAQ fact sheet to support the use of the TNA Survey.

   2.4 Dosaqua to develop Communication Script (to augment the FAQ) which explains the aims of the TNA and 5-stage process, key drivers and incentives, also confidentiality of data collected and generated (in line with the CRC’s theme business plans).

   2.5 CRC checks and authorises FAQ Fact Sheet and Communication Script, load on CRC website; also PDF for emailing or printing.

   2.6 CRC to encourage/assist (as required) all participant companies to make at least one introductory connection with website (including feedback and discussion on WT&D process on CRC E&T blog).

   2.7 CRC to develop initial priority 'hit list' of CRC participants (40 business units consisting of primary [priority x20] and secondary [if time is available x20] participants), including main WT&D contact person & details. Dosaqua to confirm.
3. Determine Training Needs of Selected CRC Participants

3.1 Dosaqua to contact hit list companies by phone (using Communication Script) and walk each through the Stage 1 TNA document, also secondary list as required (budget based on 20 surveys completed).
3.2 Dosaqua record their comments, particularly expectations of WT&D and any problems or comments.
3.3 Dosaqua update CRC database.

4. Identification of Training Providers and Courses/Workshops

4.1 Dosaqua determines what participant training needs the CRC has the capacity and skills to develop and provide.
4.2 Dosaqua determines what training needs are already available in the higher education and vocational education and training “VET” sectors.
4.3 Dosaqua determines what training needs the CRC can collaborate with others to develop and implement.

5. Review and Recommendations

5.1 Dosaqua make recommendations to the CRC on training needs of industry participants and opportunities for training to be undertaken inhouse or with external organisations (draft report to be submitted to CRC E&T).
5.2 Dosaqua make changes and updates as appropriate (Final report).

2.2 Data Management

The nominated data custodian is the CRC.

For the project it was determined that there should be few data security or privacy issues. Thus confidentiality of information provided by participants was maintained where requested and when appropriate – no private information would be provided in the survey summaries.

The project resulted in the expansion and update of the CRC's Content Management System (CMS) on participants' details, also approved training providers, QA workshops/courses.

Appropriate project data has been made available on the Internet (as per the FRDC data management policy) on the CRC’s website.
3. RESULTS

3.1 Summary of Survey Responses on Company Training Scoping (Stage 1)

The results of the survey responses on Importance of Skills/Knowledge to Your Business (Stage 2) are in the Appendices 4 (All responses), 5 (Aquaculture) and 6 (Processing / Value-adding) and these are discussed in Section 4 Discussion.

3.1.1 Surveys Completed and Sectors Represented

A total of 54 surveys were completed, with the following sectors being represented:

- Aquaculture Production (25 survey responses) 46.3% of total responses
- Fishing Operations (8) 14.8%
- Vessel Operations (0)
- Processing / Value-adding (14) 25.9%
- Sales & Distribution 7 (13.0%)
- Compliance (0)
- Pets etc (0)

Many of the businesses were vertically integrated; some of these companies chose to submit more than one survey to directly focus on specific production unit needs. In future surveys it is recommended that several options could be used to allow for these integrated companies. In addition some companies were providing services to the sector.

3.1.2 Numbers of Staff in Business (who might undertake training)

There may have been some confusion with this question, as some people interpreted it as how many people in the business and others thought it as after how many actually needed or could need to be trained. In this report it is assumed that the numbers represent the numbers of employees/managers that may want/need to undertake training over the next year or so. The response grand total was in excess of 2,700 employees of which 37% were full-time, 6% were part-time and 56% were casual/seasonal workers (see table below).

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Average</th>
<th>Response Total</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>19.13</td>
<td>1033</td>
<td>54</td>
</tr>
<tr>
<td>Part-time</td>
<td>6.04</td>
<td>169</td>
<td>28</td>
</tr>
<tr>
<td>Casual/Seasonal</td>
<td>44.89</td>
<td>1571</td>
<td>35</td>
</tr>
</tbody>
</table>

3.1.3 Shared or Private Training

More than 75% of the respondents suggested that joint training with other companies was preferred, 13 (24.1%) said they would prefer the training was all inhouse. However, there were more than 30 comments made for this question (see table next page).
Response Comments on Shared or Private Training

Remote location involves expensive travel for any training initiatives conducted off-site while I indicated "yes" I think it's really related to the type of training and some is best deliver on site to few people and some to big groups in a workshop setting, both have their place. A mixture of both would be preferred given the "expertise" held by some of our own employees. Although we have some "expertise" within our own company who should also be involved in training delivery. Yes and No.

some inhouse IP, need to protect

Generally only interested in on the job training at business. Would consider other opportunities if was thought to be worthwhile.

If of a generic nature otherwise prefer all training be on the job at our premises. Generally yes but it will depend on the subject matter.

No preference

I believe training with people from other companies increases your opportunity to learn from them as well, not just from the training provider. some external provides

Would depend on the training to be provided. It is unclear what training is actually available or planned. It may be that dedicated training would be more appropriate. As a Food Technologist I welcome the opportunity to work with others outside the business however from a confidentiality point of view that may not be appropriate. depends on level, lower level inhouse, have general workers, operational, managers and GM depending on type of training. cut work force, hanging onto only experienced staff, not new training, everything on back foot

no preference

Group training promotes exchange of ideas

skippers need to be more professional, want to have Front Line Management block workshops, 1-2 weeks, anywhere, also deck hands (some Indonesian) more on handling, some compliance

Provided the other companies are not our competitors. As long as it is all relevant

Need well qualified Diploma level managers with sufficient industry skills

remote location, techniques with some IP, been going for a while, everything working pretty well for AQIS registration

Either way - good to be able to understand others issues and concerns as well. If enough people require training internally then training within the company only is OK too. No strong preference. On occasion we conduct training in-house due to the topics being covered or due to economies/convenience. We also sent staff to "public" courses eg AIM

No preference

All of our full and part time staff are either university trained, or APF has provided TAFE training for these staff. As all of our key staff have general training, we prefer that company specific training be taught on site. Casual staff are trained on site in processing. Debatable, depending on course venue

If appropriate training were to be identified then it would probably be more cost affective to have joint training.
3.1.4 Organisation Chart

This also showed wide variation in the answers (see table below).

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Frequency</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, we have an organisation chart and will send it to Roy Palmer.</td>
<td>41.5%</td>
<td>22</td>
</tr>
<tr>
<td>Yes, we have an organisation chart, but will not supply it to Roy Palmer.</td>
<td>13.2%</td>
<td>7</td>
</tr>
<tr>
<td>No, we don't use an organisation chart.</td>
<td>32.1%</td>
<td>17</td>
</tr>
<tr>
<td>No, we don't have an organisation chart, but we would like Roy Palmer to send us an example.</td>
<td>13.2%</td>
<td>7</td>
</tr>
</tbody>
</table>

To date (23/03/09) only five businesses had supplied Roy Palmer with their organisation charts.

3.2 Performance Indicators

Due to a slow start and busy trading periods in Christmas and Chinese New Year, the project was completed about ten weeks later than scheduled. The two main KPIs were achieved to different levels:

- **At least 20 CRC business units undertake TNA Stage 1. Result:** 52 companies / business units completed the survey, plus three others responded that they weren’t in a position to undertake the survey (2 businesses were likely to cease operations, whilst a third remarked that they were doing all their required training by themselves and didn’t believe they presently needed assistance with their program).
- **Mapping of CRC R&D outcomes with industry Workplace Training & Development priorities. Result:** Feedback from the CRC Program leaders was non existent except for one person who supplied some details. From discussions it seems at least a couple of the skills classified as critical by the respondents are being covered within the CRC R&D programs. Training for a number of skills are being offered by Universities and training providers associated with the Seafood CRC (see table in Section 4.1).

In summary, most of the project objectives (Section 1.3) and project outputs were achieved.

3.3 Specific Comments and Feedback from CRC Business Respondents

The ‘Hit List’ of selected CRC businesses contained 47 listings whilst a few additional business contacts were received from the Oyster Consortium and the Australian Abalone Growers Association (members of the CRC).

3.3.1 Timing

The timing of the survey’s initiation was held up for a couple of weeks which meant the start occurred during the busy Christmas to Chinese New year period. However, most people contacted by phone were happy to do the survey themselves (online) or do it verbally with DOS. The fact that
more than double the responses were received was a welcome show of support for the project despite the busy seafood sale periods.

3.3.2 Structure of survey questions

More than 60% of the respondents seemed to have little trouble in completing the surveys. It seems that most took 15-20 minutes to complete. DOS averaged around 17 minutes for the 15+ surveys he did verbally.

A few people suggested that there were too many skills sets provided. Sometimes the skill set was too broad, other times too small in scope. It was suggested that the survey’s design was set for the larger businesses, and that smaller operations had troubles selecting answers. Some amalgamation of results was undertaken to overcome some of these problems.

Perhaps the biggest difficulty was being able to determine what skill level to use as few of the respondents had four job categories or levels within their business or business unit. Many of the smaller business had the owner/manager and then some general workers (two levels); some had general workers, supervisors/team leaders and then the owner/manager. Thus in the analysis the two middle levels (Foreman and Senior Technician / Specialists) have been amalgamated as the majority of companies suggested that 3 employee levels was more common than 4 levels.

Respondents indicated that some of the questions / choices were the same or similar, particularly with some of the skills. However, no specific examples were provided.

**Recommendation:** General comments and answers to some questions show that a number of changes or improvements are required in the Survey Instrument (Survey Monkey) if another generic TNA survey is to be undertaken.

3.3.3 Company specific responses

One company indicated that they were happy with their in-house training program which had been underway for more than 10 years. Whilst they employed some external contractors, the majority of the training was undertaken by their own staff. They saw no benefit in completing the survey, however, they did want to be kept in the loop in case there was some training offered which can complement theirs.

At least two companies indicated that due to the downturn in the industry, it was unlikely that they would be in business in the new financial year. Hence training was not a priority consideration for them at the time.

A third company had downsized significantly and only had experienced and well-trained people on staff. They indicated that unless conditions improved remarkably, it would be unlikely that they would undertake any new training for a few years.

Several business were too busy to provide much input; as Dos knew their businesses pretty well they suggested he put in their main selections and add others as appropriate from their short conversations.

Quite a number selected that they were not members of the CRC despite the fact that the CRC participant had given their name. This was corrected in their survey responses and annotations.
made in the “Hit List” which was then passed onto CRC for followup. This indicates that more work needs to be undertaken to ensure that all the various industry members actually know that they are members of the CRC.

### 3.3.4 Examples from Non-members

In the early part of the project, six companies familiar to DOS and RP were used as examples to test the survey. Several of these businesses are still in operation, and at least two have recently changed owners so the ex-owners did not think it appropriate that their names be given.

Discussions between the Project Team concluded that this was still good information that was worth keeping within the total results; if necessary these businesses could always be filtered out of the final results.

### 3.3.5 Other General Comments from Respondents

<table>
<thead>
<tr>
<th>General Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>The survey is really for industry not research organisation. It was hard to answer questions in a meaningful way. A lot of the type of training suggested is already provided at universities (for example OHS, Animal Ethics), other areas we have significant expertise in and can easily train in house. I sometimes indicated “important” when it is essential for more than one category of employees but the survey did not allow me to tick more than one box. The survey also requires that at least one box is ticked in each group so even we have no need for harvesting and post-harvest I ticked one box just to submit the survey. As we are a diverse business with specialist areas the options under the categories needed to have a multi tick response</td>
</tr>
<tr>
<td>Some would also supply for GM, strategic and public stuff</td>
</tr>
<tr>
<td>Need aquaculture specific (training) for inhouse leadership for teams. Would like to see graduate like out of the Agricultural Colleges, able to get onto a farm and do the work straight away</td>
</tr>
<tr>
<td>AQIS Approved Arrangements very important</td>
</tr>
<tr>
<td>(Our company) is primarily in sales, marketing and distribution of seafood products but is also involved in processing and value adding. Also indirectly involved and dependant on in harvesting and catching operations</td>
</tr>
<tr>
<td>Happy to discuss my answers to this survey if required</td>
</tr>
<tr>
<td>Approved arrangements for AQIS and associated SOPs, policies and checklists, need at all levels, needs to be local (location given). Roy et al, I understand it is a generic survey but many responses I gave could have had more than one answer and others were not relevant because even though I ticked the important box, there are specialists within the company group who handle all those duties and no one else even thinks or knows about, eg company accountant or solicitor, that many smaller operations would not have</td>
</tr>
</tbody>
</table>

These show that a number of changes or improvements are required in the Survey Instrument (Survey Monkey) if another generic TNA survey is to be undertaken.
3.4 Responses from Education and Training Providers

Education and training institutions who are members of the CRC were invited to complete an online survey (Survey Monkey) that was adapted to their purposes. They were asked if they provided training for any of the skills sets listed and were also asked to provide information on length of courses, whether they were available online, etc.

Of the six institutions, the following provided completed surveys:

- Curtin University
- Flinders University.

The Sunshine Coast TAFE which is associated with the University of the Sunshine Coast also completed a survey.

3.5 Support Materials Produced

For this project the support materials which were developed or adapted include:

- **Stage 1 Company Training Needs Analysis** (provided online through Survey Monkey).
  - A total of 54 responses of the Company Training Scope were received, all sections were completed

- **Stage 2 Training Workbook** (hard copy).


- Introductory communication scripts for CRC company members and training providers (utilised in the TNA surveys).

- Seafood CRC Workplace Training Frequently Asked Questions (FAQs).

- **Training Provider courses and workshops survey** (provided online through Survey Monkey).
  - A total of 6 responses to the Specialised Training Workshops & Courses were received, however 2 responses were incomplete.

- List of selected companies contacted (‘Hit List’) and those which participated in the survey – used to update CRC CRM database (confidential).

- List of training providers, including workshops or courses offered– used to update CRC CRM database.
3.6 Outputs and Extensions

Outputs and extensions included:

- Confirmation of CRC training needs based on theme business plans.
- Development of materials and tools to assist CRC participants, eg. FAQ, Communication Script, etc.
- Wide CRC participant input into TNA through the Survey Monkey (with continual improvement of the survey).
- Comprehensive list of industry training needs.
- Identification of training providers and the applicable courses or workshops they offer

These are summarised in a report and the data would be available on line.

3.7 Intellectual Property

No intellectual property was identified – the project information and results would be available in the public domain – except for confidential information (respondent’s contact details) the results can be published, widely, disseminated and promoted, and/or training and extension provided.
4. DISCUSSIONS ON IMPORTANCE OF SKILLS/KNOWLEDGE TO CRC BUSINESSES TO CHECK

This Training Needs Analysis is the first one to be undertaken that included all sectors of the seafood industry right across Australia. The skills were categorised under a number of skills sets:

- Working Effectively & General Administration
- Risk Management
- Production Systems & Infrastructure Management
- Production and Operations
- Harvesting & Post Harvest
- Business & Strategic Management.

DOS has been using these skills sets for more than 10 years, and all of the Seafood Industry Training Package units of competency (including all the imported competency units) can be categorised under one of these skills sets. Several of the training institutions are also using this system. Thus, it is worthwhile considering the results of the response within these skills sets, rather than discussing the 69 specific skills identified in the surveys.

Recommendation: Industry feedback be sought on the usefulness of the 6 skill sets utilised in this research. Other job specific skills sets are currently being identified and these could be categorised under these major skill sets.

4.1 Skills Prioritisation and Minimum Levels

The questions in the TNA Company Training Scope survey were established within Survey Monkey so that only one answer (i.e. skill) could be selected. This allows a primary focus on what the respondents see as their priorities for training.

This approach also allows easy identification of the minimum level that training should be undertaken (i.e. a selection of the second level ‘Foreman’ means that the training is most relevant at that level, although it could also be useful at the higher levels – eg. ‘Senior Technician/Specialist’ and ‘Manager’).

In analysing these survey responses, it was decided that skipping or not answering a question was to be taken as a ‘no, this skill is not a training priority’. Therefore the per centage (%) figure provided in the analysis summary refers to the number of respondents selecting that option as a per centage of the total number of respondents.

Thus, the skills in the following table (page 21) are seen as industry priorities – the higher the score the higher the priority for training. – i.e. critical priorities are those selected in more than 50% of the responses, high priorities are those above 25%. Note that the preferred level of training is also provided (mostly ‘Manager’ or ‘All Levels’). There is also a column summarising which of the training institutions within the CRC currently provide this training (UNI*).
<table>
<thead>
<tr>
<th>Skills identified as critical (black) or high priority (red) during online survey of industry training needs</th>
<th>Level</th>
<th>%</th>
<th>UNI*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WORKING EFFECTIVELY AND GENERAL ADMINISTRATION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Licensing and Compliance Requirements (including Corporate Governance)</td>
<td>Manager</td>
<td>65</td>
<td>ALL</td>
</tr>
<tr>
<td>Budgeting, Preparing Financial Statements (Longer Term)</td>
<td>Manager</td>
<td>61</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Communications and Working in Teams</td>
<td>All levels</td>
<td>59</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Accounting/Cash Flow (Daily/Weekly)</td>
<td>Manager</td>
<td>59</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Conflict Management, Negotiation</td>
<td>Manager</td>
<td>30</td>
<td>SC</td>
</tr>
<tr>
<td>Staff Supervision/Management, Delegating, Team Building</td>
<td>Manager</td>
<td>48</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Industrial Relations, Workplace Agreements, Labour Attraction and Immigration</td>
<td>Manager</td>
<td>41</td>
<td>SC</td>
</tr>
<tr>
<td>Project Management</td>
<td>All levels</td>
<td>41</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Time and Self Management</td>
<td>All levels</td>
<td>35</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Staff Induction, Training and Professional Development</td>
<td>Manager</td>
<td>35</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Benchmarking and Key Performance Indicators</td>
<td>Manager</td>
<td>35</td>
<td>SC</td>
</tr>
<tr>
<td>Documentation, Record Keeping and Data Management</td>
<td>All levels</td>
<td>31</td>
<td>FU, SC</td>
</tr>
<tr>
<td><strong>RISK MANAGEMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational Health and Safety</td>
<td>All levels</td>
<td>61</td>
<td>ALL</td>
</tr>
<tr>
<td>Infrastructure Emergency Procedures</td>
<td>All levels</td>
<td>26</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Risk Management and Emergency Procedures/Response</td>
<td>All levels</td>
<td>41</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Use of Chemicals and Biological Agents/Hazardous Substances</td>
<td>All levels</td>
<td>41</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Environmental Protection (Daily Operations)</td>
<td>All levels</td>
<td>39</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Stock Emergency Procedures</td>
<td>All levels</td>
<td>30</td>
<td>FU, SC</td>
</tr>
<tr>
<td><strong>PRODUCTION SYSTEMS AND INFRASTRUCTURE MANAGEMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure Management</td>
<td>Manager</td>
<td>35</td>
<td>ALL</td>
</tr>
<tr>
<td>Facility Design and Construction</td>
<td>Manager</td>
<td>33</td>
<td>ALL</td>
</tr>
<tr>
<td>New and Emerging Technologies</td>
<td>Manager</td>
<td>30</td>
<td>ALL</td>
</tr>
<tr>
<td>Facility Location Selection and Management</td>
<td>Manager</td>
<td>28</td>
<td>ALL</td>
</tr>
<tr>
<td><strong>PRODUCTION AND OPERATIONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production Planning</td>
<td>Manager</td>
<td>39</td>
<td>ALL</td>
</tr>
<tr>
<td>Stock Handling, Transfers, Grading</td>
<td>All levels</td>
<td>26</td>
<td>ALL</td>
</tr>
<tr>
<td>Water and Stock Quality Monitoring and Management</td>
<td>Middle</td>
<td>26</td>
<td>ALL</td>
</tr>
<tr>
<td><strong>HARVESTING AND POST HARVEST</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Safety and HACCP</td>
<td>All levels</td>
<td>41</td>
<td>SC</td>
</tr>
<tr>
<td>Marketing and Promotions</td>
<td>Manager</td>
<td>39</td>
<td>FU</td>
</tr>
<tr>
<td>Product Quality Assurance and Continual Improvement</td>
<td>All levels</td>
<td>37</td>
<td>SC</td>
</tr>
<tr>
<td>Traceability Management and ISO 22000 (Traceability and Accountability)</td>
<td>Manager</td>
<td>30</td>
<td>SC</td>
</tr>
<tr>
<td>Importing/Exporting Requirements and Documentation</td>
<td>Manager</td>
<td>28</td>
<td>FU</td>
</tr>
<tr>
<td>Customer Service and Post-Sale Service</td>
<td>Manager</td>
<td>26</td>
<td>SC</td>
</tr>
<tr>
<td><strong>BUSINESS AND STRATEGIC MANAGEMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic Planning and Business Development</td>
<td>Manager</td>
<td>59</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Financial Planning, Interpreting Financial Statements</td>
<td>Manager</td>
<td>56</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Business Planning, Structure, Legal Requirements</td>
<td>Manager</td>
<td>52</td>
<td>ALL</td>
</tr>
<tr>
<td>Leadership, Industry Representation, Community Liaison, Public Speaking</td>
<td>Manager</td>
<td>50</td>
<td>FU</td>
</tr>
<tr>
<td>Asset Management, Depreciation, Purchase Options</td>
<td>Manager</td>
<td>44</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Find and Apply for Business Finance and Government Grants</td>
<td>Manager</td>
<td>43</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Enterprise or New Business Establishment</td>
<td>Manager</td>
<td>39</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Mentoring of Staff/Colleagues</td>
<td>Manager</td>
<td>39</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Succession Planning</td>
<td>Manager</td>
<td>35</td>
<td>FU, SC</td>
</tr>
<tr>
<td>Workplace Training and Assessment (‘Train the Trainer’)</td>
<td>Manager</td>
<td>26</td>
<td>SC</td>
</tr>
</tbody>
</table>

* UNI – lists the Universities or TAFEs which offer courses or workshops for this skill - CU = Curtin University, FU = Flinders University, SC = Sunshine Coast TAFE, ALL = all three institutions.
In the TNA survey a total of 69 different skills were listed under the 6 skills sets. Overall 41 (59%) skills were selected in the above table – 43% were considered **high priority** (>25%) and 16% were considered **critical** (>50%).

Only seven of the 22 industry specific skills within the skill sets **Production Systems & Infrastructure Management** and **Production and Operations** are identified in the table training needs. These two skill sets have 44% and 23% (respectively) of their skills selected in the table - none of the skills in these two skill sets scored higher than 39% (**Production Planning**). The next highest was **Infrastructure Management** (35%).

These production-based skill sets are where much of the Workplace Training and Development has been offered over the past decade by TAFEs and other registered Training Providers. However, much of this training has been at the lower levels, i.e. Certificate II and Certificate III. The demand identified in this report was mostly at the manager level (Diploma) - of the seven skills in the above table, 5 were at the ‘Manager’ level of training, one at ‘Middle’ level, and one at ‘All Levels’. This indicates a need for skilled people who can manage the work teams.

It is interesting to note that the equal second highest skills score was for **Occupational Health and Safety** (61%), no doubt due to the legislative requirements for workplace safety in all states and territories. Due to the compliance requirements of most of the **Risk Management** skills, the majority of the training was categorised as critical at ‘All Levels’ (75% of the skills listed were considered high or critical priority).

Another risk-skill – **Infrastructure Emergency Procedures** - scored 52% (26% for both ‘All Levels’ and ‘Manager’).

For the skill set **Harvesting and Post Harvest**, only 40% of the skills scored above 25% - the majority of needs are for training in the food safety, sales and marketing areas. These scored in the ‘high’ priority - between 26 and 41%.

For this skill set it is obvious there is still unmet demand of post harvest training. This suggests that there is a need to continue to undertake a lot of basic training in this area and then encourage people in the industry to look seriously at value adding innovations (of which there could be several resulting from CRC R&D programs).

The most significant finding is the high number of skills seen as critical within the more generic skills sets of **Working Effectively & General Administration** (92%) and **Business & Strategic Management** (91%). Over one-third of the skills contained in each of these skills sets was considered critical for training and over half were considered high priority.

These two contained the highest scores, as well as 8 of the top 10 responses:

- **Licensing and Compliance Requirements (including Corporate Governance)** (65%)
- **Budgeting, Preparing Financial Statements (Longer Term)** (61%)
- **Communications and Working in Teams** (59%)
- **Accounting/Cash Flow (Daily/Weekly)** (59%)
- **Conflict Management, Negotiation** (56%)
- **Financial Planning, Interpreting Financial Statements** (56%)
- **Business Planning, Structure, Legal Requirements** (52%)
- **Leadership, Industry Representation, Community Liaison, Public Speaking** (50%).
The data clearly shows that industry considered these skills as critical to the success of their businesses.

In further support of the fact that industry training focuses on compliance–based skills, the highest scoring skill was for Licensing and Compliance Requirements (including Corporate Governance) which scored 65% - that means that two in every three respondents considered this skill a priority!

Thus, whilst there are significant needs in those areas, the good news is that training in all those areas is readily available – some provided by training providers within the CRC (Table page 23 ^^), in addition there are several non-CRC training institutions which are servicing this need.

The question as to the exact suitability or relevance to the industry was NOT considered in this research. Further examination of the training on offer is required.

Industry have often indicated that there are problems with availability/flexibility of training on offer. In response to this the training providers have suggested that a high level of customisation and flexibility is being offered, from smaller groups in regional areas to one-on-one training in the workplace – the problem is that industry are not willing to pay for this increased flexibility.

The loss of FarmBis funding is a problem as it provided a funding source for smaller regional groups of industry people undertaking training. At present there doesn’t seem to be a strong opinion on how well the replacement Farm Ready program will perform – initial discussions with industry suggest only minor uptake.

The other standout result of the research is the focus of the priorities for training at the ‘Manager’ level (30), although there were 13 selected for ‘All Levels’ and one for ‘Middle’ – combination of ‘Foreman’ and ‘Senior Technician/Specialist’. Thus as it was mostly the managers undertaking these surveys, it is obvious they know they need training.

Another problem is that often the manager is just too busy for training – other priorities and day-to-day problems take much of their time.

The 5-stage approach developed through the CRC (Section 1.1) will assist in this process, however, it is the panacea to this problem.

**Recommendation:** Considerable development work is still required in demonstrating the benefits of training and to galvanise industry to prioritise for management and staff to undertaken this training.

### 4.2 Conclusion and Recommendations

The Seafood CRC’s 'A, B, Sea' Program has two important outcomes which can benefit from this project being successful, namely:

1. CRC industry participants have the necessary skills to implement and maximise the results from CRC R&D for use in their businesses, and
2. Seafood CRC participants have an improved ability to attract, train and retain staff.

There are four Project Objectives (Section 1.3) of which the first one is relevant to Outcome #1. The other three Project Objectives is relevant to Outcome #2.
Thus the conclusions and recommendations for this report consider these four objectives.

4.2.1 Linking Training into CRC Programs Outcomes

Objective 1: Determine what training could be required to develop and implement the expected R&D outcomes from the CRC Theme Business Plans and other activities.

The CRC participants need to be provided with assistance in identifying strategic WT&D, particularly those which set within the CRC priorities and linked to the commercialisation of the CRC’s R&D outcomes from the three other Theme Business Plans:

- Production Innovation Research Program
- Market and Product Development Research Program
- Commercialisation and Utilisation Program.

At the beginning of the project, the CRC Program Managers were asked to identify specific outcomes of R&D programs requiring training.

Due to the inadequate responses from the CRC Program Leaders (Section 3.2), it is not possible to discuss this topic. Ad-hoc discussions with them and other CRC members indicated that a couple of the CRC’s R&D programs are targeting (or are relevant to) specific skills needs.

Suggested reasons for the inadequate response include:

- Instructions from Project Team were not informative or helpful
- Short timetable for responses combined with busy summer period
- Lack of understanding of how R&D outcomes can be ‘extended’ to industry through Workplace Training & Development.
- Disjunct of language between what is commonly used by training providers
- General low priority given to issues/work associated with ‘training’.

Recommendation: Once this report is published, undertake a followup with the CRC Program Leaders to determine linkages between their program R&D outcomes and training.

4.2.2 Training Currently Offered by CRC Members

Objective 2: Determine what participant training needs are already addressed in the higher education (Universities) and vocational education and training (VET, eg. TAFEs & private/industry RTOs) sectors.

There are six universities associated with the CRC, and some have TAFEs or other training groups associated with them (provided below in brackets):

- University of Tasmania/Australian Maritime College
- Adelaide University
- University of SA
- Flinders University (TAFE SA, and possibly Aust Fisheries Academy through MISA)
- Curtin University
• University of the Sunshine Coast (Sunshine Coast TAFE).

As indicated in Section 3.4, only three of these institutions completed the Industry Specialised Training Workshops & Courses survey - Curtin University, Flinders University and Sunshine Coast TAFE. This is despite several emails and followup phone calls.

At least one of the institutions responded that they thought they had been given the wrong survey, or that the questions were irrelevant to them – unfortunately a followup phone call was not returned and they were recorded as a nil response. As the three institutions that did reply were able to successfully complete the surveys in time, it was concluded that the other institutions weren’t interested or were too busy.

From the Table on pages 21-22, some sort of training for all except 2 of the skills are offered within these institutions, and for the 11 critical skills, there is usually two and sometimes three different institutions listed.

It is expected that the other CRC training institutions who did not complete the surveys would be supplying relevant training.

**Recommendation:** The CRC training institutions that did not complete the Industry Specialised Training Workshops & Courses survey are assisted with completing it. This information be combined with what is available from the first three and made available to industry.

**Recommendation:** The CRC’s education and training program team prepare a list of 5 or so potential courses and then re-survey the participants and see which ones they are interested in. Opportunities for external funding (eg. Farm Ready) should be utilised where possible.

**Recommendation:** Determine most appropriate way in which the CRC can find providers willing to customize their existing courses for the seafood industry and offer them through the standard competency-based arrangements (an extension could be lining these to credits for University degrees or other qualifications).

### 4.2.3 Training Offered by Other Groups

**Objective 3: Determine existing training within external Unis and RTOs/private providers**

Time constraints did not allow this objective to be considered. From DOS’s and RP’s own experiences, there is a large number of relevant courses and workshops of use to the CRC participants.

**Recommendation:** The Industry Specialised Training Workshops & Courses survey is made available to training institutions that are not part of the CRC. This information be combined with what is available from the CRC institutions and made available to industry.

**Recommendation:** This report be made available to appropriate Training institutions who are encouraged to revise their Diploma and Graduate Diploma subjects for intensive workshops for industry managers in the critical skills.
4.2.4 Customised Training that CRC Could Offer in Collaboration with Other Groups

Objective 4: Determine what participant training needs the CRC can collaborate with other training providers to develop and implement.

This has been addressed in Section 4.7.2.

4.3 Benefits and Adoption

This research will directly benefit the CRC industry participants as well as the CRC training institutions. It is anticipated that the research will increase the dialogue between these groups and result in customised training in the identified critical and high priority areas. Other benefits can include facilitation of the formation of regional ‘training incubators’ or ‘benchmarking groups’ for greater collaboration in training and other development initiatives.

Benefits are likely to flow to other industry members as well as other trainers working with the seafood industry.

4.4 Further Developments

A number of recommendations are provided in Section 4.2 for appropriate activities or other steps that may be taken to further develop, disseminate, or to exploit commercially the results of the research.

4.5 Contribution to Planned Outcomes

This is discussed in Section 4.2.
5. APPENDICES AND ATTACHMENTS

Appendix I: Introductory Script and Company Survey.
Appendix II: Frequently Asked Questions.
Appendix III: Survey of Universities, RTOs and private training providers.
Appendix IV: PDF of All Survey Results (54 responses) CONFIDENTIAL – PROVIDED SEPARATELY.
Appendix V: PDF of Aquaculture Survey Results (25 responses) CONFIDENTIAL – PROVIDED SEPARATELY.
Appendix VI: PDF of Processing / Value-adding Survey Results (14 responses) CONFIDENTIAL – PROVIDED SEPARATELY.
Appendix VII: PDF of Training Provider Survey Results.
Appendix VIII: Hit List and Industry Respondents – CONFIDENTIAL – PROVIDED SEPARATELY
Appendix IX: PDF of Training Provider Hit List – CONFIDENTIAL – PROVIDED SEPARATELY.