Visiting Expert – Professor Gavin Burnell

14 June - 22 July 2010

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Project No. 2010-721



Report on visit of Prof Gavin Burnell supported by the Seafood CRC Visiting Expert Award

Purpose of visit

This Visiting Scientist Bursary was designed to allow Professor Burnell to visit a representative cross section of CRC members and advise on how other models for communication among aquaculture stakeholders have been successfully developed. Professor Burnell was instrumental in establishing the AQUATT network (www.aquatt.ie) established initially to systematise, coordinate and develop the training requirements of the European aquaculture industry but also now actively involved in coordinating technology transfer and information dissemination throughout Europe. Prof. Burnell remains involved with AQUATT as a member of its Board. In addition, Professor Burnell is an expert on mollusc aquaculture, particularly interactions with the environment. This is a key area of challenge to oyster farmers, particularly in parts of Tasmania and the northern rivers in NSW.

Proposed outputs for the visit were:

- Adoption of improved methods of communication between aquaculture producers in Australia (through the Aquaculture Innovation Hub) based on lessons learned from the AquaTT experience.
- A framework for a longer term linkage with AquaTT
- Recommendations to the oyster consortium on environmental interactions in the Australian oyster industry

Observations and feedback arising from AQUATT presentations given in Perth, Adelaide, Hobart and Port Stephens.

1. Adoption of improved methods of communication between aquaculture producers in Australia (through the Aquaculture Innovation Hub) based on lessons learned from the AquaTT experience

1.1: Choosing the best tool for the job. This topic starts with first identifying the needs of industry and then getting their support and involvement in the project. Finally the results need to be communicated and disseminated in an appropriate format. It was clear from the Hub Communication workshop in Adelaide that there was no shortage of ideas on how to address the dissemination stage (**see Appendix 3**). One of the common features of successful communication was ensuring the method of communication (e.g. face-to-face, phone, email, etc) was appropriate for all parties and for the type of message (**see Appendix 2**). A suggestion from Graham Mair that some meetings could be "virtual" (eg "Go –To Meeting software) is definitely worth following up. I think that the large distances between provider and stakeholder in Australia have encouraged the use of electronic methodologies over more traditional methods. However nothing beats the personal touch so ways must be found to balance this situation. One example

of this would be to run in-workplace training. Seafood CRC could make more use of existing industry associations and networks as an opportunity to go and meet the "customer".

1.2: Coordinating the network of research providers. In addition to communication between academia and industry it is important that the various bodies involved in aquaculture research both within and between states also talk to each other. On the face of it there appear to be a plethora of agencies and organisations, some with unique agendas and others chipping away at similar problems. In Europe the Aquaculture Technology Platform is attempting to bring all stakeholders together under one roof in order to present a coordinated agenda to the EU with respect to funding and governance. On the face of it this role is undertaken in Australia by the FRDC (The FRDC's stakeholders are the Australian Government and the three sectors of the fishing industry: commercial (wild catch and aquaculture), recreational and indigenous. It is also guided by state and territory governments, other funding bodies, research providers, community and interest groups and ultimately the people of Australia.). I think that Aquaculture sometimes tends to get lost in this large forum and needs to present a stronger more coherent voice. Perhaps Seafood CRC could be more proactive in taking on such a role?

1.3: Supporting all stages of the project life-cycle. Preparing an application for funding can be onerous, particularly for researchers in small teams or in academia where they have heavy teaching and administrative roles. There will also be requirements for interim and final reports by specified deadlines (see Appendix 1, Kube email). This can cause stress to academics as they will be mainly judged on their publication in peer reviewed journals rather than by the provision of technical documents for industry and/or government. Project leaders can then either hire a person to manage the project or include an AQUATT like partner to take on this role. *These activities need to be recognised by allowing a budget line for project management*.

2. A framework for a longer term linkage with AquaTT

2.1: Setting up and Internship. The possibility of embedding an Australian communications person into the AQUATT organisation was discussed. AquaTT would be prepared to host and train this individual for a suggested period of at least 3 months. The Internee would work alongside the various project officers and the financial controller and observe the AQUATT model of project initiation and management. *Would CRC support such an initiative?*

2.2: Targeting international funding opportunities. There are thematic areas where collaboration between Australia and the EU would be mutually beneficial. The desire for a sustainable approach to fisheries management and aquaculture production is a common issue as are the associated concerns over the impacts of global climate change. The Forum for European – Australia Science and Technology cooperation (FEAST) is a starting point. However as Steve Clarke (PIRSA-SARDI) has pointed out "*opportunities for Australian participation in*

EU projects appears to be limited without a better funding model". Attempts by Porf Burnell to explore this issue with FEAST did not yield any useful results (see Appendix 4). In the EU the recently formed Aquaculture Technology Platform is taking on this role with respect to influencing future Framework work programmes. Are the FRDC involved in similar activities in Australia? FEAST needs to be lobbied by the industry to get aquaculture and fisheries on their agenda. AquaTT could try to identify areas of mutual interest and source potential EU partners.

3. Recommendations to the oyster consortium on environmental interactions in the Australian oyster industry.

In Ireland, Bord Iascaigh Mhara (Irish Seafisheries Board) is undertaking a considerable amount of work in the area of marine conservation to help fish farmers and fishermen work responsibly, in harmony with the environment. Their CLAMS initiative is a unique <u>Coordinated Local Aquaculture Management</u> <u>System</u> that has helped aquaculture companies to integrate their operations into the coastal zone and to work in cooperation with fishing and angling concerns on conservation issues. As farmed shellfish are not artificially fed or treated, they are reliant on their natural environment. If there are too many shellfish farms in a bay relative to the natural food supply, currents and mixing of the water column, growth may slow down. Under the *UISCE* project BIM are working with a team of international experts to determine the carrying capacity of a number of aquaculture areas in Ireland. Using the latest sampling and *computer modelling methods* they obtain in-depth knowledge of the optimal growing conditions to produce high quality seafood with minimal environmental impact.

The Sustainable Aquaculture Strategy drawn up for the NSW oyster industry by the NSW government is an impressive body of work. The resulting award winning document is a comprehensive bible of information and best practice for the industry. However there does appear to be one major omission in the strategy and this concerns carrying capacity. In the section "6.5 Stocking density (pg 35) it states the following: Experienced oyster farmer can estimate local carrying capacities based upon previous production and environmental conditions. It s acknowledged however, that because oyster farmers rely on a common food source, a conflict between individual interests and the common good may develop. The Department of Primary Industries (DPI) can prepare stock management plans to manage this issue for estuaries or parts of estuaries, at the request of the local oyster industry. There is no mention in the report of how this might be carried out but it is my impression that it would be based upon traditional two-dimensional techniques. It is my opinion that all important Australian shellfish growing estuaries and bays should be computer modelled as part of an assessment of their environmentally sustainable carrying capacity. There are several good examples of this including the SMILE (Sustainable Mariculture in northern Irish Lough Systems) project and the SPEAR (Sustainable Options for People, Catchment and Aquatic Resources) that was carried out in China.

CONCLUSIONS

The Seafood CRC is already performing a key coordinating function in both sourcing funding for research, overseeing the project performance, monitoring reporting and assisting dissemination. One area that could however be improved is in the recognition and support of good project management.

The active promotion of seafood is generally much more advanced in Australia than in the EU where it is either taken for granted (eg Mediterranean countries) or ignored (UK, Ireland). Norway is a possible exception to this sad state of affairs. I saw several excellent examples (eg Barrilla Bay oysters, Tassal Salmon) where the production activity, the product and the consumption of the product were imaginatively combined to promote seafood and educate the public.

Another area where Australia could become world leaders is in the encouragement of sustainable aquaculture. For example new South Wales has a "Sustainable Aquaculture Strategy" for the oyster industry that has been developed and accepted by all stakeholders. This should be a template of good practice for fish and shellfish farming across all states. However the assessment of environmentally sustainable production levels could be streamlined by using recently developed, computer based, hydrographic modelling techniques.

One trend that was not healthy is that of obsessive secrecy apparent in some new and developing sectors of the industry (e.g. tuna, rock lobster and mussel hatcheries). It is understandable that investors would want to see returns for their money, but there is a risk that by adopting a closed shop attitude they will become excluded from national and international R& D breakthroughs.