AQUAPLAN

Resources and Funding Consultancy

Executive Summary & Working Papers

3 January 2002

Prepared for

FISHERIES RESEARCH & DEVELOPMENT CORPORATION

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Executive Summary

Background and Purpose

AQUAPLAN is Australia's national strategic plan for aquatic animal health. It is a broad, comprehensive strategy that outlines objectives and projects to develop a national approach to emergency preparedness and response and to the overall management of aquatic animal health in Australia.

AQUAPLAN is made up of eight key programs under which industry and government have identified priority projects to achieve program objectives. The eight key programs are:

- international linkages;
- quarantine;
- surveillance, monitoring and reporting;
- preparedness and response;
- awareness;
- research and development;
- legislation, policies and jurisdiction; and
- resources and funding.

Together the objectives of these eight programs will assist in maximising Australia's ability to control aquatic animal disease outbreaks, maintain market access, support quality assurance and improve the productivity and sustainability of Australia's aquatic animal production industries.

AQUAPLAN was developed under the oversight of the Australian Fish Health Management Committee (FHMC), an interim joint industry/government body set up primarily for this purpose. The Resources and Funding Consultancy aimed to consider the establishment of a national body or structure for the purpose of coordinating and implementing AQUAPLAN in the future. During the course of the consultancy the need arose to identify specific aspects of AQUAPLAN not currently being undertaken by existing structures and organisations. The identification of such gaps became an important aim of the consultancy.

Outputs from the Consultancy

The consultancy involved the following elements:

1. Stakeholder Survey. This component of the consultancy involved the development of an Issues Paper (Working Paper 1 - Annexure 1) and a questionnaire (Annexure 2), which were distributed to approximately 100 individuals or organisations with 30 responses received.

2. Survey Results. The survey results were detailed in Working Paper 2 (Annexure 3). The main findings of the survey were as follows:

- There was broad interest in establishing a national aquatic animal health body or structure in some form.
- The over-riding view was that there is a need for a gap analysis.
- Stakeholder consultation was seen as the first step in the analysis.
- Support was greatest in the eastern States and South Australia; it was not as strong in Western Australia or Tasmania.

- There was concern that the establishment of a national body is being considered when most industries are state-based, i.e. the majority of aquaculture is species- and region-specific.
- The need for national coordination of aquatic animal health in a manner similar to that for the terrestrial animal and plant sectors (i.e. through Animal Health Australia (AHA) and Plant Health Australia (PHA)) was questioned.

3. Stakeholder Meetings. Following the distribution of the survey results to stakeholders, meetings were held in the six State capitals. The purpose of the meetings was to give further consideration to the range of options for organisation structures and funding mechanisms, leading to a preferred option(s) being developed. The outcomes of the meetings are detailed in Working Paper 3 (Annexure 4).

In summary there were two main outcomes of the stakeholder consultations.

1. There was in-principle support among some industries and some States for giving further consideration to strengthening national aquatic animal health management arrangements, in particular in the context of the following issues: translocation and zoning; compensation for compulsory destruction; and insurance and risk management.
2. There was no support for the immediate establishment of a stand-alone, national aquatic animal health body along the lines of AHA or PHA. The option of such a body should not be further pursued at this point in time and was not to be put forward for consideration at the August 2001 workshop.

From the stakeholder consultations the preferred options were as follows.

- Establish, in a least cost manner, some form of incorporated entity that could be attached to an existing organisation (e.g. AHA or the Fisheries Research and Development Corporation) and provided with administrative services.
- Use existing structures (FHMC) with modification.

4. National Workshop. Resources and Funding Workshop, Brisbane: Summary Outcomes Paper (Annexure 5)

The Resources and Funding workshop was held as part of the Fourth AQUAPLAN Stakeholder workshop in Brisbane, 13-16 August 2001. The main components of the Resources and Funding workshop were (1) a report on Stakeholder consultations, and (2) further consideration by workshop participants of whether or not there was need for a national coordinating body, and, if so, the nature of any such body.

Conclusions and Outcomes

Based on the consultations held throughout the course of the consultancy and discussions at the Workshop, the following conclusions were drawn.

- Establishment of a stand-alone, national, joint industry/government body with a funding source based on members' contributions is not a realistic option at this stage of industry development.
- The establishment of a subsidiary to existing bodies, e.g. Animal Health Australia or the FRDC, may well be pursued in the future. Additional work needs to be done prior to any decision on such a move, e.g. on the actual activities the body would undertake.

- Considerable time was spent during the Workshop discussing gaps in the implementation of AQUAPLAN. "Gaps" were identified and agreed (Attachment 1 to Annexure 5), and it was then agreed that some form of national coordination should be pursued to address these gaps.
- General support was given for a "minimalist" low cost option, namely, consideration of an Executive Secretariat reporting to a reconstituted FHMC. It was also agreed that consideration should be given to locating the Executive Secretariat with some other established body (e.g. AHA) for administrative support.
- The Workshop agreed to establish a Working Group, with appropriate terms of reference, membership, etc. (Attachment 2 to Annexure 5) to review FHMC and its original Terms of Reference (TOR). The Working Group was then to draft a report recommending a revised structure, TOR, membership, funding arrangements, etc. for a reconstituted FHMC and report back to FHMC and Standing Committee.

Concern was expressed by several States and Territories over their ability to maintain and fund existing AQUAPLAN activities at the State level and their reluctance to commit additional funding for new activities. It is reasonable to conclude that an important reason a new umbrella body was not pursued was the anticipated financial burden to Stakeholders. However, that, in turn, also relates to the relatively early stage of the industry's development and the lack of a significant revenue base from which to contribute.

ANNEXURE 1

AQUAPLAN Issues Paper

Prepared as part of the consultancy to consider resource and funding options for the future management of aquatic animal health in Australia

January 2001

INTRODUCTION

AQUAPLAN is Australia's national strategic plan for aquatic animal health. The plan was jointly developed by State, Territory and Commonwealth governments and private industry sectors. It is a broad, comprehensive strategy that outlines objectives and projects to develop a national approach to the overall management of aquatic animal health.

To date AQUAPLAN has been managed by an interim body, the Fish Health Management Committee (FHMC) with joint Commonwealth/State and Territory/fishing industry (commercial and recreational) membership.

In the months following the Third AQUAPLAN Workshop held in Canberra in May 2000, the AQUAPLAN Business Group was formed to investigate and facilitate the establishment of a national body for the future management of aquatic animal health.

AQUATIC ANIMAL HEALTH AND INDUSTRY DEVELOPMENT

The establishment of AQUAPLAN was a recognition by governments and aquatic animal industries that improved national management of aquatic animal health is important for the future development of aquatic animal industries.

A national approach will enable better monitoring and surveillance of aquatic animal diseases and provide for better management and handling of disease incursions.

A national approach will also improve the position of the industry in the international market place. Integrating the States' and Territories' aquatic animal health responsibilities with the Commonwealth Government's role of maintaining quarantine, meeting international requirements for disease reporting, developing trade relationships and negotiating market access, will have obvious benefits in improving the industry's position in domestic and overseas markets.

DO GOVERNMENTS AND INDUSTRIES WANT TO BUILD ON THIS INITIAL ACTION?

To get an answer to this question, which FHMC considers to be a matter of highest priority, a consultancy has been let to examine resource and funding options in more detail, particularly the options for the structure of an organisation that would manage aquatic animal health.

Fish kill: pilchards, south coast WA [Photo courtesy of Dr Brian Jones, Fisheries WA]

WHAT'S NEXT

This Issues Paper and attached survey are the first step in the consultancy. The purpose of the latter is to obtain the views of governments and industries on, and expressions of interest in, establishing an aquatic animal health body. There are two matters requiring more detail before any firm decisions on establishing an aquatic animal health body can be made. These are:

- the role of the new body; and
- what it will cost.

This Issues Paper does not give specific details. Its objective is to help organisations make key "in-principle" decisions on options that can be further developed on a no-commitments basis. These are decisions on:

- whether governments and aquatic animal industries are prepared in principle to establish an aquatic animal health body;
- options for possible structures to manage aquatic animal health and for which detailed costings could be prepared; and
- an indication from aquatic industries of the mechanism that they would use to fund their on-going commitments to the new body.

If there is interest in establishing an aquatic animal health body and preferred options are identified in the questionnaire responses, the second step is for the consultant to proceed to prepare a working paper as the basis of further stakeholder consultation.

The third step would be further consideration of the range of options for organisation structures and funding mechanisms leading to a preferred option being developed.

The consultant's final report would be the basis of a national workshop of interested stakeholders to be held in the second quarter of 2001.

THE KEY ISSUES

To focus attention on key issues, the AQUAPLAN Business Group has given some preliminary consideration to the issues and has identified six key issues on which stakeholders need to focus.

1. **The role of aquatic animal health in the future development of aquatic industries**
2. **Aquatic health activities to be undertaken**
3. **A suitable structure to manage AQUAPLAN**
4. **Administrative ease and cost to establish an aquatic animal health body**
5. **Industry funding of an aquatic health body**
6. **Insurance**

Stakeholders may have other issues which are important to them and these should be raised with the consultant (contact details can be found on page 9 of this paper)

Key issue 1

The role of aquatic animal health in the future development of aquatic industries

Australian fisheries and aquaculture industries have developed rapidly in recent years. Production is currently valued at over $2 billion per annum with exports valued at $1.5 billion. This outcome is undoubtedly due to good management but a significant contributory factor is the fact that Australia is free from many aquatic diseases that are endemic in other parts of the world.

The continued development of these industries and the many regional communities that rely on them is significantly dependent on continuing their relatively disease-free status. Australia needs to have in place disease prevention strategies and response mechanisms to respond to any disease emergencies.

In all areas of international agricultural and aquatic trade, countries are required to substantiate claims of freedom from major diseases in order to support export certification and quarantine import policy. Aquatic animal health management will be important in maximising Australia's position in relation to these matters.

Production, marketing and political environments have changed. Governments operating alone can no longer deliver effective aquatic animal health management. An effective, finely tuned aquatic animal health system can only be achieved with the participation and ownership of those who stand to benefit – industries and governments.

In the terrestrial animal sector, Animal Health Australia (AHA) programs demonstrate the clear benefits to industry of a national approach. For example, the National Transmissible Spongiform Encephalopathy Surveillance Program is an integrated national program jointly funded by industry and government to demonstrate Australia's ongoing freedom from Mad Cow Disease (Bovine Spongiform Encephalopathy) and scrapie.

MATTERS TO CONSIDER

How important will aquatic animal health management be for the future development of aquatic industries?

If it is important, can the existing administrative structures deliver the national coordination that will be required in the future?

STRATEGIC DECISION TO MAKE

Governments and industries need to decide whether aquatic animal health will be a priority for the future development of aquatic animal industries with commensurate resources being applied to it.

A decision that aquatic animal health is not a priority would mean that most of the current activity being undertaken by the FHMC could be wound down. Responsibility for any aquatic animal health issues would revert to individual States and the industries within their jurisdiction. Such a decision would also imply that coordination between governments and between governments and industry would not be necessary. The Commonwealth's future role would be residual relating to its international obligations.

If it is decided that a national approach to aquatic animal health is a priority, consideration needs to be given to the appropriate structure to pro-actively manage and coordinate it (Key issue 2).

Key issue 2

Aquatic health activities to be undertaken

AQUAPLAN consists of eight key programs under which industry and government have identified priority projects to achieve program objectives. These are listed in Attachment 1.

The 2000-01 Federal Budget provided funds over a four year period to strengthen the infrastructure for animal, aquatic animal and plant health. The funds are to be managed by bodies such as Animal Health Australia (AHA) and Plant Health Australia (PHA) which deliver joint industry/government programs. As there is no similar organisation for the aquatic animal sector, some of the funding will initially be managed by FHMC.

Funding was provided for four aquatic animal sector activities:

- establishment of an aquatic animal health body ($0.307m)
- diagnostics ($1.628m)
- emergency management planning ($0.860m)
- emergency management training and incident simulation ($0.318m).

If industries and governments decide to establish an aquatic animal health body, then this body would become responsible for implementing, in association with its members, the diagnostics, planning and training and incident simulation projects.

The costs of an aquatic animal health body will depend on the number and scale of activities that it undertakes.

MATTERS TO CONSIDER

Those stakeholders who decide that aquatic animal health is important for the development of aquatic industries, and who decide that an aquatic animal health body should be established, need to consider what activities they want the body to undertake, in particular

- core activities which will be of benefit to all members, eg surveillance and monitoring, disease preparedness etc; and
- non-core activities which would be of benefit to a particular member.

STRATEGIC DECISION TO MAKE

Governments and industries need to decide on the activities that an aquatic animal health body will undertake.

Key issue 3

Suitable Structure to Manage AQUAPLAN

If stakeholders decide that the continued development of the aquatic industries is dependent on active national coordination of aquatic animal health management, there would be two courses of action:

- maintain the current structures (Fish Health Management Committee and the AQUAPLAN Business Group) into the future; or
- coordinate and manage aquatic animal health undertaken by an existing or new organisation with a specific charter.

The first course of action is not viable in the long term because FHMC and AQUAPLAN Business Group were established as interim bodies pending a decision on long term administrative arrangements. The members of FHMC and AQUAPLAN Business Group have other functions and are not dedicated full-time to aquatic health management. FHMC and AQUAPLAN Business Group do not have funding to develop programs and bear all costs of activities such as attending meetings.

The only viable long term way is for the national coordination and management of aquatic animal health to be undertaken by an organisation (either existing or a new organisation) which has a specific charter of aquatic animal health. There are four options:

Option	Description
1	Join Animal Health Australia (AHA) as another animal industry. The aquatic sector would become a member of Animal Health Australia (AHA) and would be represented as a single industry. It would take its place alongside other livestock industries such as the cattle industry, sheepmeat, wool, chickens, lot feeders, etc.
2	AHA establishes a subsidiary company to manage aquatic animal health. AHA would establish a subsidiary to handle aquatic animal health. The subsidiary would have a separate constitution and Board.
3	The Fisheries Research and Development Corporation is structured to enable it to undertake coordination and management of aquatic animal health as well as fisheries R&D.
4	A new independent company, similar to AHA and Plant Health Australia, is established to undertake aquatic animal health activities.

For options 2, 3 and 4 the members would be drawn from the Commonwealth, States and Territories and aquatic industries.

MATTERS TO CONSIDER

Matters to assess, such as the time and administrative complexity to establish the structure, the cost of establishing the structure and maintenance of the identity of the aquatic animal sector, are outlined in Key issue 4.

Key issue 4

Administrative ease and cost to establish an aquatic health body

Administrative ease

The table below sets some broad features of each option for the structure of an aquatic health body.

	Option 1 (AHA member)	***Option 2 (AHA subsidiary)***	***Option 3 (FRDC subsidiary)***	***Option 4 (New organisation)***
Immediate commencement	✓			
Access to an existing administrative structure	✓	✓	✓	
Immediate access to animal health expertise	✓	✓		
Immediate access to aquatic animal health expertise			✓	
Autonomy to deal with aquatic health issues		✓	✓	✓

- *Option 1 would be the quickest to establish and would take as long as it requires for AHA to admit a new member. "Animal" may need to be redefined so that it includes aquatic animals. A disadvantage of this option is that the identity of the aquatic animal sector would be subsumed within a broad animal sector.*

- *Options 2 and 3 are similar in that, under both, the aquatic sector would have an identity separate from terrestrial animals. Option 2 could be established fairly quickly, depending on how long it would take for AHA to establish a subsidiary. It is likely to take longer to establish option 3 because Commonwealth legislation may be required to deem the management of aquatic health an R&D activity under FRDC's enabling legislation (similar legislation was required in the case of prawn export promotion). Under these two options, the aquatic animal sector would maintain its separate identity.*

- *Option 4, a new organisation, would take the longest to establish.*

MATTERS TO CONSIDER

What degree of "ownership" do aquatic industries want to have of aquatic animal health management in the future?

What type of administrative structure would give aquatic industries the maximum degree of "ownership" of aquatic animal health in the future?

How important is it to have a separate identity for aquatic animals?

Cost

There are two elements to the cost of the option chosen for an aquatic animal health body:

1. establishment or set-up costs (ie accounting, legal expenses, accommodation etc); and
2. on-going cost comprising administration and program costs.

The first element will be largely independent of the number of aquatic sectors because establishment costs tend to be fixed, regardless of the size of the organisation. However, the second element will depend on the number of sectors that join.

It is not possible at this stage to give a detailed cost to any of the options. However, some considerations concerning the cost of each option are in Attachment 2.

A number of qualitative judgements can be made about the cost of each option:

From the perspective of establishment or set-up costs:

- Option 1 is likely to be the least costly.
- Options 2 and 3 are likely to be more expensive than option 1 because they would involve legal costs to develop new constitutions.
- For option 1, it would not be necessary to lease premises or acquire office furniture as AHA already has these. Similarly, it is assumed that under options 2 and 3 existing premises and office furniture of AHA and FRDC will be able to be utilised, thereby reducing the cost of establishment. It should be noted that the possibility of enjoying economies of scale under options 1, 2 and 3 is not the same as cross-subsidisation.
- Option 4 is likely to involve the highest set-up costs.

From the perspective of on-going administration and program management costs:

- For options 1, 2 and 3 it is assumed that AHA and FRDC have some spare capacity in terms of IT networks, administrative and finance staff which the new aquatic health component could utilise. These options would be cheaper than option 4 which would require new accommodation and staff.
- Options 1 may not require the selection of a new Board, possibly only an increase in size. Option 3 may not require a change to the Board. Options 2 and 4 would require new Boards.
- The cost of running aquatic animal health programs will depend on the number and nature of the programs.

MATTERS TO CONSIDER

After deciding the corporate structure (and there could be more than one) which would be suitable, the key issue is the cost of establishing and operating the option/s. This will depend on a range of factors such as whether or not there will be a Board and its the size, the staff levels, programs to be undertaken, etc.

STRATEGIC DECISION TO MAKE

Aquatic industries and States and Territories need to decide the preferred option/s for an aquatic health body with a view to preparing detailed costings of the option/s including the programs that the body will undertake.

Key issue 5

Industry funding

Once an option has been chosen and its cost of operation has been determined, it will be necessary for industry to decide how it will pay its share of costs. This is likely to be an ongoing contribution.

Possible mechanisms for the payment of industry's contribution include:

- Voluntary contributions to be collected, say, in the same way as industry contributions to the Fisheries Research and Development Corporation; or
- A new Commonwealth aquatic animal health levy, by agreement with the aquatic animal industry and based on, for example, Gross Value of Production as determined by ABARE.

Voluntary Contributions

Some features of a voluntary payment mechanism are:

- legislative amendments are not required;
- a 'free rider' problem would be created where some industries or individuals would benefit from disease control/response strategies whether they had contributed or not; and
- an agreed mechanism for collection and a payment schedule would have to be developed.

Mandatory Levies

Some features of a new Commonwealth aquatic animal health levy are:

- approval from Cabinet to impose an aquatic animal health levy is required;
- existing *Primary Industries (Excise) Levies Act 1999* would be amended; and
- industry agreement would be needed which may be difficult to achieve given that it has not been possible thus far to gain sufficient industry support for a fisheries R&D levy.

Those aquatic industries that decide to become members of an aquatic animal health body will need to consider the mechanism through which they will meet their share of the costs of operating the chosen option.

STRATEGIC DECISION TO MAKE

Aquatic industries will need to consider the funding mechanism through which they will meet their on-going commitments to an aquatic animal health body.

Key issue 6

Insurance

Generally speaking current industry-government agreements do not include provision for government compensation during a disease outbreak in the aquatic animal sector. Access to private insurance has the potential to close this gap. However, for insurance to close this gap, a system needs to be established that facilitates early disease reporting and improves the capacity of insurers to assess the risks.

Some aquaculture sectors have access to insurance products. For insurance underwriters the key issue is the level of risk associated with a disease or an industry sector. By implementing AQUAPLAN there will be a national list of reportable diseases, zoning for diseases of concern, surveillance, monitoring and reporting. Therefore industry and government can demonstrate risk reduction. Current insurance products do not include losses from a proscribed government slaughter.

Diseases/Agents

A current list of aquatic diseases/agents is provided in Attachment 3

HOW DO I GET INVOLVED?

Your contribution to developing the issues described above is important. Opportunity will be provided through a series of workshops nationally and in your area to contribute face-to-face to the development of AQUAPLAN. However, in the first instance we ask that time is taken to consider and respond to the attached survey.

FOR FURTHER INFORMATION

For further information please contact:-

EconSearch consultancy manager: Julian Morison (08) 8357 9560

FRDC project manager: John Wilson (02) 6285 0411

Co-Chair of the AQUAPLAN Business Group: Russ Neal (02) 6281 0383

AFFA member of the AQUAPLAN Business Group: Eva-Maria Bernoth (02) 6272 4328

Attachment 1

SCOPE OF AQUAPLAN

AQUAPLAN consists of *eight* key programs under which industry and government have identified priority projects to achieve program objectives. The eight key programs are:

- ***International linkages***, including promoting and improving Australia's trade interests and establishing international standards for produce;
- ***Quarantine***, to improve policies, procedures, operations and documentation pertaining to the import and export of aquatic animals;
- ***Surveillance, monitoring and reporting***, to consolidate disease information, facilitate disease detection and provide a mechanism for reporting diseases between states, the Asia Pacific region and internationally;
- ***Preparedness and response***, to disease outbreaks through the preparation of manuals and operating guidelines including AQUAVETPLAN (the emergency response plan for aquatic animal health);
- ***Awareness*** about aquatic animal health amongst stakeholders and the general public;
- ***Research and development***, in priority aquatic animal health issues;
- ***Legislation, policies and jurisdiction***, to ensure appropriate mechanisms are in place including an aquatic animal translocation policy; and
- ***Resources and funding***, including cost sharing arrangements between industry and government which underpin the funding of emergency response mechanisms.

Program details and further information on AQUAPLAN are available on the web at *http//www.affa.gov.au/outputs/animalplanthealth.html*

Attachment 2

COMMENTS ON COSTS OF AQUAPLAN IMPLEMENTATION OPTIONS

Option	Comment on set-up costs	Comment on admin/program costs
1	• There would no set-up costs (eg legal and other business costs) as the aquatic sector would be joining AHA as a new member.	• Assuming that AHA has no staff with aquatic expertise, some new staff would need to be recruited. • Some portion of AHA's existing corporate overhead costs (eg accommodation, IT etc) would be allocated to the aquatic health component. • Program costs depending on the programs put in place.
2	• A constitution for the new subsidiary would need to be developed, involving legal costs. • A new Board would have to be selected, involving executive search costs. • It is assumed that AHA has some spare accommodation and administrative capacity. Acquisition costs for accommodation and infrastructure such as IT network would be avoided.	• Some portion of AHA's existing corporate overhead costs (eg accommodation, IT etc) would be allocated to the aquatic health component. • Staff would need to be recruited, on the assumption that AHA has no staff with aquatic expertise. • Program costs depending on the programs put in place
3	• Legal and accounting costs to restructure FRDC. • As in option 2, it is assumed that FRDC has spare accommodation and administrative capacity. Acquisition costs for accommodation and infrastructure such as IT network would be avoided.	• Some portion of FRDC's existing corporate overhead costs (eg accommodation, IT etc) would be allocated to the new aquatic health component. • One specialist aquatic health staff to be employed. • Program costs depending on the programs put in place
4	• A constitution for the new company would need to be developed, involving legal costs. • A new Board would have to be selected, involving executive search costs. • Acquisition costs for accommodation, office equipment and fit-out, infrastructure such as an IT network.	• Staff costs. Probably more staff than under other options as a CEO and administrative staff such as a finance officer would need to be employed. • On-going costs of a new, independent office. • Program costs depending on the programs put in place.

ATTACHMENT 3

NATIONAL LIST OF REPORTABLE DISEASES OF AQUATIC ANIMALS

DISEASE/AGENT
FINFISH
1. Epizootic haematopoietic necrosis
2. Infectious haematopoietic necrosis
3. *Oncorhynchus masou* virus disease
4. Spring viraemia of carp
5. Viral haemorrhagic septicaemia
6. Channel catfish virus disease
7. Viral encephalopathy and retinopathy
8. Infectious pancreatic necrosis
9. Infectious salmon anaemia
10. Epizootic ulcerative syndrome (*Aphanomyces invaderis*)
11. Bacterial kidney disease (*Renibacterium salmoninarum*)
12. Enteric septicaemia of catfish (*Edwardsiella ictaluri*)
13. Piscirickettsiosis (*Piscirickettsia salmonis*)
14. Gyrodactylosis (*Gyrodactylus salaris*)
15. Furunculosis (*Aeromonas salmonicida* subsp. *salmonicida*)
16. Goldfish ulcer disease (*Aeromonas salmonicida* atypical strains)
17. Whirling disease (*Myxobolus cerebralis*)
18. Enteric redmouth disease/yersiniosis (*Yersinia ruckeri*)
MOLLUSCS
1. Bonamiosis *Bonamia ostreae*
Bonamia sp
2. Haplosporidiosis *Haplosporidium costale*
Haplosporidium nelsoni
3. Marteiliosis *Marteilia refringens*
Marteilia sydneyi
4. Mikrocytosis *Mikrocytos mackini*
Mikrocytos roughleyi
5. Perkinsosis *Perkinsus marinus*
Perkinsus olseni
6. Iridoviroses
CRUSTACEANS[1]
1. Baculoviral midgut gland necrosis
2. Nuclear polyhedrosis baculoviroses *Baculovirus penaei*
Penaeus monodon-type baculovirus
3. Infectious hypodermal and haematopoietic necrosis
4. Yellowhead disease virus
5. Crayfish plague (*Aphanomyces astaci*)
6. Whitespot disease
7. Taura syndrome
8. Necrotising hepatopancreatitis

[1] Note that the inclusion into the National list of the two NACA-listed diseases/agents 'Gill-associated virus (GAV)' and 'Spawner mortality syndrome/Midcrop mortality syndrome (SMS/MCM)' is postponed.

ANNEXURE 2

AQUAPLAN Key Issues Survey

Prepared as part of the consultancy to consider resource and funding options for the management of aquatic animal health in Australia

Organisation: _____

Address: _____

Respondent's Name: _____

Contact Phone No: _____ Fax No: _____

E-mail Address: _____

It is intended that this questionnaire be completed after (or while) reading the **AQUAPLAN Issues Paper**. The questions that follow correspond to the Key Issues discussed in the Issues Paper.

Please return your response by **Friday 16th February 2001**. Please send your response and direct any queries to:

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Key issue 1: The role of aquatic animal health in the future development of aquatic industries

1. The issues paper discusses the role of aquatic animal health in the future development of aquatic industries. Is aquatic animal health a priority issue for your organisation?

Yes / No

2. If "Yes", would your organisation be interested in becoming a member of a national aquatic animal health body?

Yes / No

If national approach to aquatic animal health is not a priority to the organisation that you represent, you need not complete the remainder of the questionnaire. Please return the questionnaire to the address on the front page.

Key issue 2: Aquatic health activities to be undertaken

What do you believe should be the priority areas for funding in the implementation of AQUAPLAN? For each of the programs listed below, provide your assessment of its priority for funding. Score each program on a scale of 1 to 5 where "1" denotes a low priority area and "5" a high priority area. Please make a note of any specific issues and priorities.

Key Programs of AQUAPLAN[1]	**Priority** (please circle: 1 =low priority, 5 = high priority)	**Specific Issues and Priorities** (please comment if you wish)
International linkages	1 _ 2 _ 3 _ 4 _ 5	
Quarantine	1 _ 2 _ 3 _ 4 _ 5	
Surveillance, Monitoring and Reporting	1 _ 2 _ 3 _ 4 _ 5	
Preparedness and Response	1 _ 2 _ 3 _ 4 _ 5	
Awareness	1 _ 2 _ 3 _ 4 _ 5	
Research and Development	1 _ 2 _ 3 _ 4 _ 5	
Legislation, Policies and Jurisdiction	1 _ 2 _ 3 _ 4 _ 5	
Resources and Funding	1 _ 2 _ 3 _ 4 _ 5	

[1] Each of the key programs of AQUAPLAN is described briefly in Attachment 1 of the Issues Paper. More details and a copy of AQUAPLAN are available on the web at *http//www.affa.gov.au/outputs/animalplanthealth.html*

Key issue 3: Suitable structure to manage AQUAPLAN

The Issues Paper lists four (4) possible structures for the implementation of AQUAPLAN and the management of aquatic animal health in Australia. Please indicate your ranking in the table below.

Option	Your Ranking (1-5)*
1. Join Animal Health Australia (AHA) as another animal industry	
2. AHA establishes a subsidiary company to manage aquatic animal health	
3. The Fisheries Research and Development Corporation (FRDC) is structured to enable it to undertake coordination and management of aquatic animal health as well as fisheries R&D	
4. A new independent company, similar to AHA and Plant Health Australia (PHA), is established to undertake aquatic animal health activities	
5. Other (please specify below)	

* 1= most preferred option; 5 = least preferred option

If your organisation believes a management structure different to those proposed should be considered, please provide some summary details.

Key issue 4: Cost of establishing an aquatic health body

As discussed in the Issues Paper, the costs and details of the various options have not yet been fully investigated. Keeping in mind your ranking from the previous question, please indicate which of the options you think are worthy of further, detailed investigation for the purpose of comparison.

Option	Detailed Investigation
1. Join Animal Health Australia (AHA) as another animal industry	Yes/No
2. AHA establishes a subsidiary company to manage aquatic animal health	Yes/No
3. FRDC is structured to enable it to undertake aquatic animal health as well as fisheries R&D	Yes/No
4. A new independent company, similar to AHA and PHA, is established to undertake aquatic animal health activities	Yes/No
5. Other	Yes/No

Key issue 5: Industry funding

1. The Issues Paper lists two possible mechanisms for the collection of industry's financial contribution to AQUAPLAN: voluntary contributions and a mandatory levy. Which of these options does your organisation support? (tick the relevant box ☑)

☐ Voluntary contributions ☐ Mandatory levy

What are your organisation's views on both of these options?

2. For plant and animal health industries (PHA and AHA), costs have been shared equally between all three stakeholders (Commonwealth Government, State/Territory governments and industry) for core functions and on a beneficiary pays basis for industry specific initiatives. Is this something you would support for aquatic animal industries?

Yes / No

If "No", what would be an appropriate basis for cost sharing between stakeholder groups?

3. For plant and animal health industries, industry sector contribution is determined on the basis of each sector's Gross Value of Production (previous 3 year average). Would you support this for aquatic animal industries?

Yes / No

If "No", what would be an appropriate basis for cost sharing between industry sectors?

Key issue 6: Insurance

1. Current insurance products

What types of insurance products, relating to aquatic animal disease, are available to your sector(s)?

2. Gaps in insurance cover

What do you require in the way of insurance cover that is not already provided?

3. Do you believe AQUAPLAN has a role to play in improving insurance cover for industry?

If “yes”, in what way?

Yes / No

Other issues

1. Diseases

What are the main diseases and disease issues for your industry at present? (Refer to Issues Paper Attachment 3 for a current list of reportable diseases/agents of aquatic animals)

2. Other issues

Does your organisation believe there are other issues that need to be considered in the assessment of resource and funding options for the management of aquatic animal health in Australia?

Please return this questionnaire to the address given on the front page. Thank you for your time and contribution.

ANNEXURE 3

AQUAPLAN Working Paper 2

Prepared as part of the consultancy to consider resource and funding options for the future management of aquatic animal health in Australia

May 2001

INTRODUCTION

AQUAPLAN is Australia's national strategic plan for aquatic animal health. The plan was jointly developed by State, Territory and Commonwealth governments and private industry sectors. It is a broad, comprehensive strategy that outlines objectives and projects to develop a national approach to the overall management of aquatic animal health.

To date AQUAPLAN has been managed by an interim body, the Fish Health Management Committee (FHMC) with joint Commonwealth/State and Territory/fishing industry (commercial and recreational) membership.

In the months following the Third AQUAPLAN Workshop held in Canberra in May 2000, the AQUAPLAN Business Group was formed to investigate and facilitate the establishment of a national body for the future management of aquatic animal health.

AQUATIC ANIMAL HEALTH AND INDUSTRY DEVELOPMENT

The establishment of AQUAPLAN was a recognition by governments and aquatic animal industries that improved national management of aquatic animal health is important for the future development of aquatic animal industries.

The question is, do governments and industries want to build on this initial action? To get an answer to this question, which FHMC considers to be a matter of highest priority, a consultancy has been let to examine resource and funding options in more detail, particularly the options for the structure of an organisation that would manage aquatic animal health.

STEPS TO DATE; WHAT'S AHEAD

☑ The first step in the consultancy was to develop and distribute to stakeholders an Issues Paper (Working Paper 1) and a Key Issues Survey. The purpose of the latter was to obtain the views of governments and industries on, and expressions of interest in, establishing an aquatic animal health body. The survey was undertaken during the January-March period.

☑ The second step was for the consultant to prepare a working paper (this document) as the basis of further stakeholder consultation, provided the Key Issues Survey revealed sufficient interest on the part of industry and government in establishing an aquatic animal health body.

☐ The third step, through direct consultation with stakeholders, is to give further consideration to the range of options for organisation structures and funding mechanisms, leading to a preferred option(s) being developed. Stakeholder consultation will be undertaken during May, using this document as a basis for discussion.

☐ The consultant's final report will be the basis of a national workshop of interested stakeholders to be held in the third quarter of 2001.

KEY ISSUES SURVEY

The Key Issues Survey, together with the AQUAPLAN Issues Paper, was circulated to a range of industry, government and research organisations.

Approximately 100 questionnaires were distributed and a total of 29 completed responses were received. Although the response rate appears low, in many cases copies of the documents were sent to a number of people in the same organisation. Similarly, some of the responses received have been prepared on behalf of more than one organisation.

A majority of the key industry and government organisations (each State and the Northern Territory) responded. The following summarises the responses to the six key issues identified by the AQUAPLAN Business Group. A more detailed summary of survey responses has been prepared and is available on request.

7. The role of aquatic animal health in the future development of aquatic industries

All participating respondents (29), that is 7 government, 14 industry and 8 other respondents, indicated that aquatic animal health is a priority issue for their organisation.

Of these, only 4 (2 industry and 2 other) indicated they would not be interested in becoming a member of a national animal aquatic health body.

- **Governments and industry have clearly indicated that aquatic animal health is a priority for the future development of aquatic animal industries.**
- **There is strong interest in membership of a national animal aquatic health body.**

8. Aquatic health activities to be undertaken

AQUAPLAN consists of eight key programs under which industry and government have identified priority projects to achieve program objectives.

Overall, the responses indicated that quarantine; surveillance, monitoring and reporting; preparedness and response; awareness; research and development; and resources and funding were all high priority activities for funding in the implementation of AQUAPLAN.

- **The survey did not reveal a clear shortlist of programs that have a high priority for funding.**
- **Clarification is required over which of AQUAPLAN's programs will be funded under existing arrangements.**
- **Similarly, clarification is also required over what will be core functions of the aquatic animal health body.**

3. & 4. A suitable structure to manage AQUAPLAN

Given that active national coordination of aquatic animal health management is seen as a high priority by both industry and governments, the only viable long-term way is for the national coordination and management of aquatic animal health to be undertaken by an organisation (either existing or new) which has a specific charter of aquatic animal health.

Overall, the survey responses indicated that joining AHA (Option 1), AHA establishing a subsidiary company (Option 2) and structuring the FRDC to undertake management of aquatic animal health (Option 3) were options worthy of further, detailed investigation (Table1).

Table 1 Number of responses to the question "Which options are worthy of further, detailed investigation?" [a]

Option	Government	Industry	Other	Total
1. Join AHA	3	10	6	19
2. AHA Subsidiary Company	3	10	7	20
3. Incorporate in FRDC	4	6	5	15
4. New Independent Company	4	4	0	8
5. Other	4	1	2	7

[a] Most respondents indicated 2 or more options for further investigation.

- **The survey did not reveal a stand out preference among the listed options.**
- **Joining AHA, AHA subsidiary company and incorporate in FRDC are all options worthy of detailed investigation.**
- **Clarification is required over the budgetary implications of the options.**

5. Indicative membership fees

For the first three options above, indicative membership fees have been calculated under a number of assumptions:

- only aquaculture industries (ie not the wild catch sector industries) initially join an aquatic animal health body
- for option 1, aquatic industries would join AHA as one industry and pay a fee in proportion to their share of the total gross value of production of industry members of the enlarged corporation;
- in options 2 and 3 the subsidiaries would be quasi "stand alone" aquatic animal health bodies with separate Boards and CEOs and some dedicated program staff. It is also assumed that the administrative cost of an aquatic animal health body would be the same for subsidiaries of both organisations, ie the cost of directors' fees, staff, travel etc will be the same regardless of whether the subsidiary is established by AHA or the FRDC. Thus, options 2 and 3 are considered as one, but two different annual budgets ($1.5m and $0.75m) have been assumed.

- This means we are now looking at 3 scenarios, ie Scenario I – aquaculture industries join AHA as one industry; Scenario 2 – aquatic industries and governments form a subsidiary under AHA or under FRDC; and Scenario 3 – the same as Scenario 2, but with half of the annual budget.

In Attachments 1 to 3 there is more detail on the derivation of the indicative fees. The purpose of assuming budgets was to try and elicit a judgement or view from industries and governments as to the magnitude of the fee that they could afford. Work also needs to be undertaken to identify the activities that the new body would undertake and a budget to support these activities.

Potential member	**Indicative Membership Cost under Scenarios:**		
	1	**2**	**3**
Industry:			
Tuna	9,103	149,000	74,500
Pearl oysters	8,614	141,000	70,500
Salmon	3,818	62,500	31,250
Edible oysters	2,352	38,500	19,250
Prawns	2,352	38,500	19,250
Trout	550	9,000	4,500
Barramundi	366	6,000	3,000
Other aquaculture	3,392	55,500	27,750
States:			
NSW	1,894	31,000	15,500
Vic	641	10,500	5,250
Qld	2,444	40,000	20,000
WA	8,828	144,500	72,250
SA	9,775	160,000	80,000
Tas	4,490	73,500	36,750
NT	2,475	40,500	20,250
Commonwealth	30,547	500,000	250,000

6. Industry funding of an aquatic health body

Aquatic industries will need to consider the funding mechanism through which they will meet their on-going commitments to an aquatic animal health body. Strong views were voiced in survey responses: A total of 10 respondents (2 government, 4 industry and 4 other) supported voluntary contributions, 18 respondents (5 government, 10 industry and 3 other) supported mandatory levies.

- **Although a voluntary levy has some clear benefits, the majority view was that a mandatory levy is probably the only practical basis on which such a program could survive.**
- **Generally there was strong support for equal cost sharing between the 3 stakeholders (Commonwealth Government, State/Territory governments and industry) for core functions and on a beneficiary pays basis for industry-specific initiatives.**
- **Generally strong support as well for industry sector contribution on the basis of each sector's Gross Value of Production.**

7. Insurance

Generally speaking, current industry-government agreements do not include provision for government compensation during a disease outbreak in the aquatic animal sector. Access to private insurance has the potential to close this gap. However, for insurance to close this gap, a system needs to be established that facilitates early disease reporting and improves the capacity of insurers to assess the risks.

The survey revealed very little knowledge of available insurance although a few industries have significant cover.

- **A clear framework for compensation arrangements in the event of a nationally significant disease outbreak is required.**
- **Clarification of insurance status under current policies of (deliberate) eradication is also needed.**

WHAT'S NEXT?

Through direct consultation with stakeholders, the next step is to give further consideration to the range of options for organisation structures and funding mechanisms. Stakeholder consultation will be undertaken during mid to late May, using this document as a basis for discussion.

There are two matters requiring more detail before any firm decisions on establishing an aquatic animal health body can be made. These are:

- the role of the new body and the specific activities that it will undertake; and
- a budget to enable these activities to be undertaken.

It is envisaged that these matters will be 'high on the agenda' for discussion at the stakeholder consultation meetings.

To assist consideration of the first matter, the consultants are currently collecting information from each of the relevant State and Commonwealth agencies on the nature of aquatic animal health related services currently being provided. Details on the level of expenditures associated with the delivery of those services are also being sought. It is anticipated that this information will be collated and available at the time of the stakeholder consultation meetings.

ISSUES TO CONSIDER

The following are some of the issues that will need to be considered by stakeholders if they are to make a decision on a preferred organisational structure to manage aquatic animal health.

- Can AHA's core programs (eg exotic animal disease preparedness program) which are designed for the terrestrial animal sector be easily adapted to the aquaculture industry? How much would it cost to adapt these programs to the aquatic animal sector?
- Would extra staff with aquatic qualifications need to be engaged? If yes, how many?
- How much focus or identity would the aquatic industry have as a member of AHA?
- How much "slack" is there in the administrative systems of AHA and FRDC that could be marginally priced for the aquatic industry?
- For example:
  - do AHA and FRDC have spare office space to accommodate dedicated aquatic animal health staff?
  - could AHA and FRDC perform administrative functions (accounting, payroll etc), and recover costs, for the aquatic health function by existing administrative staff without employing new staff?

ATTACHMENT 1

Financial Reference Parameters

The following financial reference parameters were used to calculate the indicative membership fees under all scenarios:

	GVP of members ($ billion)	Industry subscription ($ million)[a]	Subscription as a % of GVP
AHA	12.6[b]	0.6[c]	0.005%
PHA	16.2[b]	0.5[c]	0.003%
Aquatics	0.7[d]	See scenarios below	-

[a] For subscription funded programs (ie core activities of benefit to all members)

[b] 1998-99

[c] 1999-00

[d] In 1999-00, the GVP of aquaculture industries was estimated by ABARE to be $678 million.

Scenario 1 – Aquatic Industries join AHA as one Industry

On the basis of the financial reference parameters given earlier, the cost of membership of AHA in 1999-2000 for the aquaculture industries would have been about $30,547.

Assuming that the States/Northern Territory and the Commonwealth would pay a matching figure, indicative membership fees for individual aquaculture industries and governments are shown below.

Potential member	**Gross value of production (1999-2000)**		**Subscription**
	$m	% (a)	($)
Tuna	202	29.8	9,103
Pearl oysters	191	28.2	8,614
Salmon	85	12.5	3,818
Edible oysters	52	7.7	2,352
Prawns	52	7.7	2,352
Trout	12	1.8	550
Barramundi	8	1.2	366
Other aquaculture	76	11.1	3,392
Total industry	**678**	**100.0**	**30,547**
NSW	42	6.2	1,894
Vic	14	2.1	641
Qld	54	8.0	2,444
WA	196	28.9	8,828
SA	217	32.0	9,775
Tas	100	14.7	4,490
NT	55	8.1	2,475
Total State/NT	**678**	**100.0**	**30,547**
Commonwealth			**30,547**

(a) For industries, the percentage share of total aquaculture production. For States/NT, the share of each State or Northern Territory in total aquaculture production.

It is likely that AHA's fee structure for 2001-02 will be higher than for 1999-2000. If the aquatic animal sector joined for 2001-02 total subscriptions for aquatic animal health would be likely to be somewhat higher, possibly about $100,000. This would pay for the aquatic industry's share of the cost of AHA's administration and core programs but not aquatic specific programs. There would need to be an additional fee for the latter.

It should be noted that an AQUAPLAN Options Paper prepared a year or two ago by the Department of Agriculture, Fisheries and Forestry provided estimates of industry and government membership fees for scenario 1 – ie aquatic industries joined AHA as an industry. The fee estimates in the earlier paper differ from the figures above mainly because more recent financial reference parameters have been used to calculate the fees for scenario 1 above.

The fees under option 1 are for work that would be undertaken jointly with terrestrial animal industries. This option does not include aquatic specific programs.

ATTACHMENT 2

Scenario 2 – AHA/FRDC Subsidiary with a First Year Budget of $1.5 million

Plant Health Australia commenced with a budget in its first year of $1.5 million, contributed equally by plant industries and governments.

As a "control" scenario for the purpose of comparison, it is assumed that an aquatic animal health body has a first year budget of $1.5 million. Indicative membership fees are shown below.

Potential member	Gross value of production (1999-2000)		Subscription
	$m	% (a)	($)
Tuna	202	29.8	149,000
Pearl oysters	191	28.2	141,000
Salmon	85	12.5	62,500
Edible oysters	52	7.7	38,500
Prawns	52	7.7	38,500
Trout	12	1.8	9,000
Barramundi	8	1.2	6,000
Other aquaculture	76	11.1	55,500
Total industry	**678**	**100.0**	**500,000**
NSW	42	6.2	31,000
Vic	14	2.1	10,500
Qld	54	8.0	40,000
WA	196	28.9	144,500
SA	217	32.0	160,000
Tas	100	14.7	73,500
NT	55	8.1	40,500
Total State/NT	**678**	**100.0**	**500,000**
Commonwealth			**500,000**

(a) For industries, the percentage share of total aquaculture production. For States/NT, the share of each State or Northern Territory in total aquaculture production.

It seems highly unlikely that aquaculture industries with a GVP of $678 million will want, or be in a position, to contribute the same funds to an aquatic animal health body that livestock or plant industries with much greater GVPs contribute to AHA and PHA.

However, to continue with the PHA assumption, the PHA budget notionally allocated equal funds to administration and programs, ie $750,000 each. As the rationale for AHA/FRDC establishing a subsidiary is to achieve economies on administration costs, there may be scope to reduce the amount allocated to administration from $750,000 to $250,000. This provides the basis for scenario 3.

ATTACHMENT 3

Scenario 3 – AHA/FRDC Subsidiary with a First Year Budget of $0.75 million

Under this scenario, it is assumed that economies in administration are possible and the administration budget would be $250,000 and the aquatic health program budget would be $500,000, giving a total budget in the first year of $750,000.

Indicative industry and government membership fees are shown below.

Potential member	Gross value of production (1999-2000)		Subscription
	$m	% (a)	($)
Tuna	202	29.8	74,500
Pearl oysters	191	28.2	70,500
Salmon	85	12.5	31,250
Edible oysters	52	7.7	19,250
Prawns	52	7.7	19,250
Trout	12	1.8	4,500
Barramundi	8	1.2	3,000
Other aquaculture	76	11.1	27,750
Total industry	**678**	**100.0**	**250,000**
NSW	42	6.2	15,500
Vic	14	2.1	5,250
Qld	54	8.0	20,000
WA	196	28.9	72,250
SA	217	32.0	80,000
Tas	100	14.7	36,750
NT	55	8.1	20,250
Total State/NT	**678**	**100.0**	**250,000**
Commonwealth			**250,000**

(a) For industries, the percentage share of total aquaculture production. For States/NT, the share of each State or Northern Territory in total aquaculture production.

It is assumed that there is spare capacity in the existing AHA and FRDC office premises to accommodate new staff dedicated to aquatic animal health. It is also assumed that existing IT facilities and administrative staff can be used with the aquatic health program paying a contribution.

ANNEXURE 4

AQUAPLAN Working Paper 3

Prepared as part of the consultancy to consider resource and funding options for the future management of aquatic animal health in Australia

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August 2001

1 INTRODUCTION

AQUAPLAN is Australia's national strategic plan for aquatic animal health. The plan was jointly developed by State, Territory and Commonwealth governments and private industry sectors. It is a broad, comprehensive strategy that outlines objectives and projects to develop a national approach to the overall management of aquatic animal health.

AQUAPLAN consists of *eight* key programs under which industry and government have identified priority projects to achieve program objectives. The eight key programs[2] are:

- ***International linkages***, including promoting and improving Australia's trade interests and establishing international standards for produce;
- ***Quarantine***, to improve policies, procedures, operations and documentation pertaining to the import and export of aquatic animals;
- ***Surveillance, monitoring and reporting***, to consolidate disease information, facilitate disease detection and provide a mechanism for reporting diseases between states, the Asia Pacific region and internationally;
- ***Preparedness and response***, to disease outbreaks through the preparation of manuals and operating guidelines including AQUAVETPLAN (the emergency response plan for aquatic animal health);
- ***Awareness*** about aquatic animal health amongst stakeholders and the general public;
- ***Research and development***, in priority aquatic animal health issues;
- ***Legislation, policies and jurisdiction***, to ensure appropriate mechanisms are in place including an aquatic animal translocation policy; and
- ***Resources and funding***, including cost sharing arrangements between industry and government which underpin the funding of emergency response mechanisms.

To date, the refinement and implementation of AQUAPLAN projects have been overseen by an interim body, the Fish Health Management Committee (FHMC), with joint Commonwealth/State and Territory/fishing industry (commercial and recreational) membership. Regarding program 'Quarantine', AQIS has prime carriage for quarantine operations while Biosecurity Australia is responsible for quarantine policy development and evaluation.

In June 1999, a National Workshop on Resources and Funding for Aquatic Animal Health was held in Canberra, to identify roles and responsibilities of industry and government, and to discuss possible mechanisms to raise revenue to support the on-going development and implementation of AQUAPLAN, including national aquatic animal disease emergency responses. In response to this workshop, AFFA[3]'s Fisheries and Aquaculture Branch drafted a 'Resources and Funding – Options Paper' which examined the likely costs associated with all aspects of aquatic animal health management, the roles and responsibilities of all stakeholders, and further explored options for collecting industry contributions to support health management plans. The Options Paper was circulated to a group of stakeholders and discussed at the Third AQUAPLAN Workshop in May 2000 in Canberra.

At this Workshop, Dr. Gardner Murray (chair of Fish Health Management Committee – FHMC) summarised the Federal Budget 2000-01 outcomes and highlighted that funding was being offered to strengthen the infrastructure of animal (including aquatic animal) and plant health. He advised that these funds were to be managed by external organisations with a view at co-ordinating the interests of industry and Government.

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2 Program details and further information on AQUAPLAN are available on the web at http//www.affa.gov.au/outputs/animalplanthealth.html

3 Department of Agriculture, Fisheries and Forestry - Australia

Dr. Murray emphasised that these funds will not be made available to AFFA but – in the case of animal and plant health – will be managed by joint industry/government bodies, i.e. Animal Health Australia (AHA) and Plant Health Australia (PHA), respectively. In the case of aquatic animal health, as there is no similar organisation, some of the funding will initially have to be managed by FHMC, however, this arrangement can only be transitory since FHMC is not a statutory body. For aquatic animals, the entire sum available over the next four years (2000/01 to 2003/04) will be approximately $3.7 million.

Directly after this Workshop, and in lieu of the Federal Budget outcomes, FHMC decided that as a matter of highest priority, a high-level consultancy was required to examine – on the basis of the above mentioned 'Options Paper' – resource and funding options in more detail. The AQUAPLAN Business Group was formed to investigate and facilitate the establishment of a national body for the future management of aquatic animal health.

It should be made clear that the establishment of a national body or structure would be for the purpose of coordinating and implementing specific aspects of AQUAPLAN that are not currently being undertaken by existing structures and organisations. Three of the eight key program areas, international linkages, quarantine, and research and development, are adequately covered (responsibility and funding) by existing institutional arrangements. However, there appear to be gaps in the other key areas (surveillance, monitoring and reporting; preparedness and response; awareness; legislation, policies and jurisdiction; and resources and funding), which could be addressed in a nationally coordinated way.

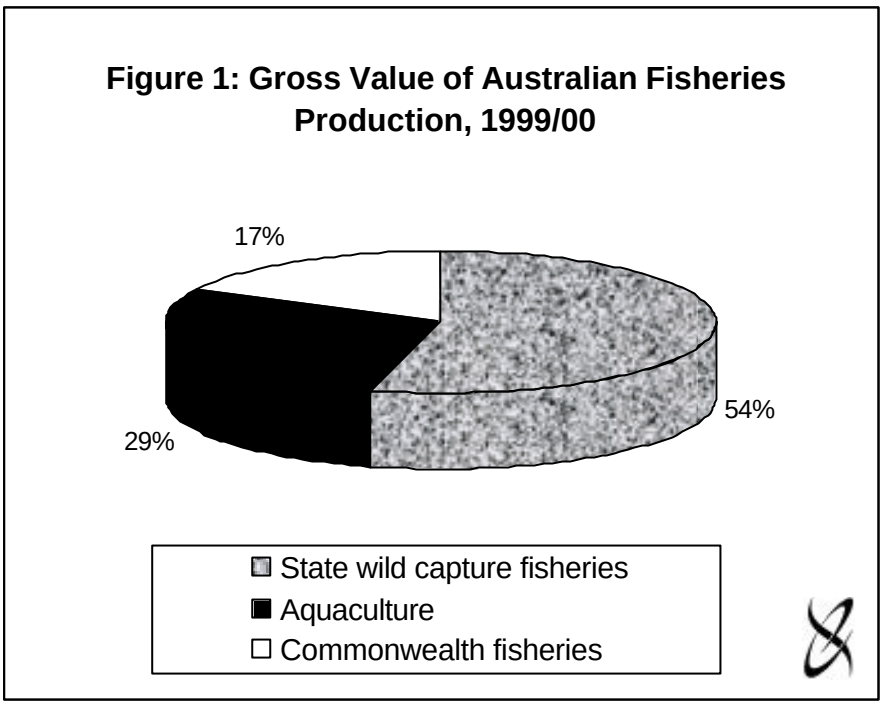
2 AQUATIC ANIMAL HEALTH AND INDUSTRY DEVELOPMENT

Aquaculture, by gross value of production, accounted for 29 per cent of total Australian fisheries production in 1999/00 (Table 1 and Figure 1). South Australia, Western Australia and Tasmania accounted for over 75 per cent of all aquaculture production in Australia, by value, in 1999/00 (Table 1).

Table 1 Gross Value of Australian Fisheries Production, 1999/00

	1999/00 $'000	Proportion of Sub-Total
State wild capture fisheries		
NSW	73,168	5.7%
Victoria	87,797	6.8%
Queensland	177,417	13.8%
WA	571,700	44.5%
SA	184,304	14.3%
Tasmania	159,104	12.4%
NT	31,684	2.5%
Total State wild capture fisheries	1,285,174	100.0%
Aquaculture		
NSW	41,866	6.2%
Victoria	13,964	2.1%
Queensland	54,340	8.0%
WA	195,890	28.9%
SA	217,334	32.0%
Tasmania	99,858	14.7%
NT	55,000	8.1%
Total aquaculture	678,252	100.0%
Commonwealth fisheries	412,749	
Total value	2,322,305	

Source: ABARE (2001) *Australian Fisheries Statistics, 2000.*



Source: ABARE (2001) *Australian Fisheries Statistics, 2000.*

In the context of other plant and animal industries in Australia, fisheries production (aquaculture plus wild catch) accounted for approximately 7 per cent of total GVP in Australia in 1999/00. As with other animal and plant industries, the majority of fisheries production, by quantity and value, is exported (Table 2).

Table 2 Australian Fisheries Production and Exports in the Context of Other Animal and Plant Industries, 1999/00

	1999/00		
	Gross Value of Production ($m)	Exports ($m)	Percentage exported, by value (%)
Total crops	16,564	12,665	76.5%
Total livestock	12,940	11,525	89.1%
Total fisheries	2,322	1,988	85.6%

Source: ABARE (2001a) *Australian Fisheries Statistics, 2000* and ABARE (2001b) *Australian Commodity Statistics, 2000.*

The major species in the Australian aquaculture sector (Table 3 and Figure 2) include:

- Tuna, accounts for 30 per cent of total production by value, based in South Australia;
- Pearl oysters, account for 28 per cent of total production by value, based largely in Western Australia;
- Salmon, accounts for 13 per cent of total production by value, based in Tasmania;
- Prawns, account for 8 per cent of total production by value, based largely in Queensland; and
- Edible oysters, account for 8 per cent of total production by value, based in NSW (55 per cent), Tasmania (25 per cent) and South Australia (18 per cent).

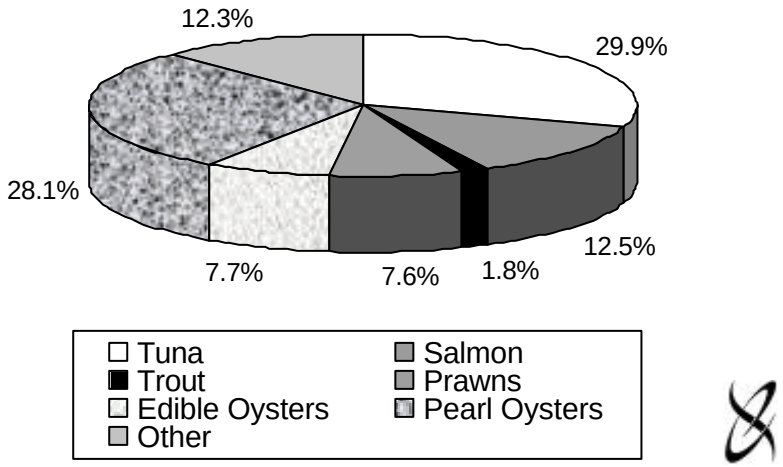
Table 3 Gross Value of Australian Aquaculture Production by Species and State [a], 1999/00

	1999/00 ($m)							
	NSW	Victoria	Queensland	WA	SA	Tasmania	NT	Australia
Tuna					202.3			202.3
Salmon						84.8		84.8
Trout	2.0	10.4			0.1			12.4
Prawns	6.7		45.0					51.7
Edible Oysters	28.8		0.7		9.3	13.2		51.9
Pearl Oysters			0.8	189.7				190.5
Other	4.4	3.6	6.9	6.2	5.7	1.8	0.0	83.6
Total	41.9	14.0	53.3	195.9	217.3	99.9	55.0	677.3

[a] Northern Territory aquaculture has been aggregated for reasons of confidentiality.

Source: ABARE (2001) *Australian Fisheries Statistics, 2000.*

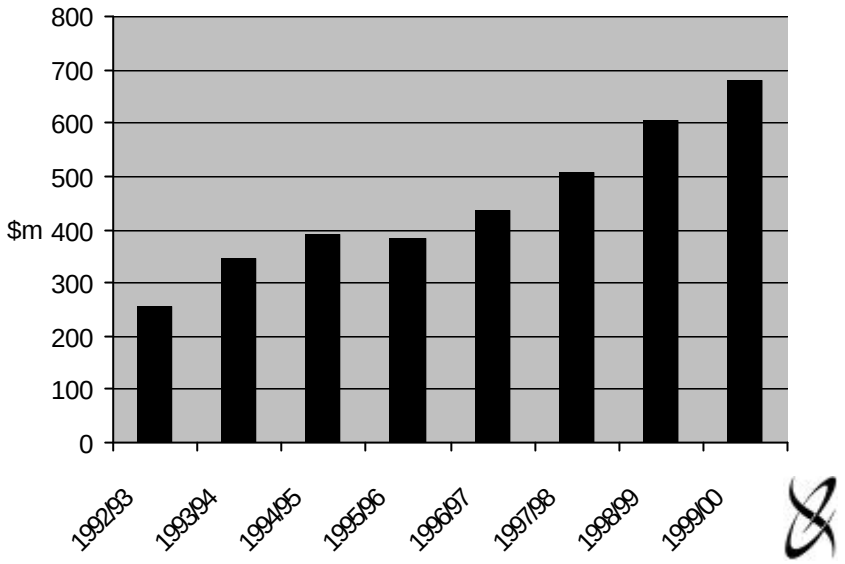
Figure 2: Gross Value of Australian Aquaculture Production, by Species, 1999/00



Source: ABARE (2001) *Australian Fisheries Statistics, 2000.*

Over the period 1992/93 to 1999/00 the gross value of aquaculture production in Australia grew by 165 per cent in nominal terms, at an average growth rate of approximately 15 per cent per annum (Figure 3).

Figure 3: Gross Value of Australian Aquaculture Production, 1992/93 to 1999/00



Source: ABARE (2001) *Australian Fisheries Statistics, 2000* and previous issues.

The establishment of AQUAPLAN was a recognition by governments and aquatic animal industries that improved national management of aquatic animal health is important for the future development of the rapidly growing aquatic animal industries.

The question is, do governments and industries want to build on this initial action? As noted at the end of Section 1, to get an answer to this question (which FHMC considers to be a matter of highest priority) a consultancy was let to examine resource and funding options in more detail, particularly the options for the structure of a national body that would coordinate and implement specific aspects of AQUAPLAN that are not currently being undertaken by existing structures and organisations.

3 STEPS TO DATE; WHAT'S AHEAD

☑ The first step in the consultancy was to develop and distribute to stakeholders an Issues Paper (Working Paper 1) and a Key Issues Survey. The purpose of the latter was to obtain the views of governments and industries on, and expressions of interest in, establishing an aquatic animal health body. The survey was undertaken during the January-March 2001 period.

☑ The second step was for the consultant to prepare a working paper (Working Paper 2) as the basis of further stakeholder consultation, provided the Key Issues Survey revealed sufficient interest on the part of industry and government in establishing an aquatic animal health body.

☑ The third step, through direct consultation with stakeholders, was to give further consideration to the range of options for organisation structures and funding mechanisms, leading to a preferred option(s) being developed. Stakeholder consultation was undertaken during June 2001, using Working Paper 2 as a basis for discussion.

☐ Working Paper 3 (this paper) will be the basis of a national workshop of interested stakeholders to be held in Brisbane in August 2001 to address the identified gaps and seek agreement among industries and governments on the specific activities that a joint government/industry aquatic animal health body would undertake.

4 CONSULTATION WITH STAKEHOLDERS

As reflected in the responses to the survey (see Working Paper 2), there is general interest in examining the establishment of an aquatic animal health body but the over-riding view of industry representatives is the need to undertake a 'gap analysis' to identify the functions or activities that the body would undertake. The stakeholder consultation, by obtaining the views of representatives of industry and State and Northern Territory Governments, was the first step in the 'gap analysis'.

Generally, support for progressing the consideration of national coordination of aquatic animal health management and some form of organisation to manage it was strongest among industry and government representatives from the eastern mainland States and South Australia. Representatives of industry and governments of Tasmania and Western Australia were not strongly supportive of the concept.

- To illustrate the nature of the State positions, a Tasmanian official expressed a concern that the establishment of a national aquatic animal health umbrella body was being considered whilst the major aquaculture industries are State-based. In contrast, a Victorian official said that barramundi, Murray cod and reef fish aquaculture were already multi-State activities and expressed the view that in 5 to 10 years time there would be significant inter-State movements of product with a requirement to ensure a continued disease-free status.
- A number of government and industry representatives made the point that the aquaculture industry is species- and region-specific, eg salmon in Tasmania and tuna in South Australia, and they questioned whether there is the same national health coordination task in the aquatic animal sector as in the terrestrial animal and plant sectors.

Three broad issues were raised by industry as requiring attention at the national level.

i. Translocation and zoning. Representatives of the prawn, oysters and abalone sectors expressed the view that the future development of their industries would require increasing movement of breeding material across State boundaries. While there are national guidelines on translocation, existing surveillance and monitoring arrangements are not sufficient to enable States to have any policy other than a ban on the introduction of material from other States.

ii. Compensation for compulsory destruction. This was raised by a number of industry representatives. For example, a representative of the Tasmanian Salmon Growers Association said that salmon growers consider this to be an important issue. A destruction order on a single salmon pen, and there are many pens per farm, could result in a loss of $1 million of stock.

iii. Insurance and risk management. Commercial insurance cover is often prohibitively expensive with limited opportunities for underwriters to understand the risk and spread of it across sufficient industry players.

In summary there are two outcomes of the stakeholder consultations.

1. There is in-principle support among some industries and some States for giving further consideration to establishing national aquatic animal health management arrangements, initially in the context of the three issues discussed above.
2. It is clear that there is no support for the immediate establishment of a stand-alone national aquatic animal health body along the lines of Plant Health Australia. The option of such a body should not be further pursued at this point in time and should not be put forward for consideration at the August workshop. If industries and governments decide in August that there is to be some work on the issues raised above, then the appropriate way to pursue it needs to be considered.

The issues raised during the stakeholder consultations will now be discussed further.

5 A NATIONAL POLICY ON TRANSLOCATION

A properly implemented and enforced policy on translocation will enable certification of disease freedom, which in turn will lead to international market access, increased exports and industry expansion. A properly enforced policy of translocation would also allow industry efficiency to develop domestically whereby one area or zone can specialise in one facet of production and export genetic material to other states. Although the issue is not currently relevant to those sectors that are geographically isolated (pearls, tuna, salmon), it is of significance to those industries that are relatively dispersed (oysters, abalone, prawns) or have the potential to become more widely established.

As well as the broader issues of translocation and zoning there were specific concerns raised during the stakeholder consultation about the 'tools' relevant to addressing these issues. Specifically, these concerns focussed on surveillance and monitoring and diagnostics (a coordinated and consistent laboratory system).

Two case studies have been prepared to demonstrate current gaps in surveillance and monitoring and some of the issues related to translocation.

The first case study refers to the whitespot syndrome virus (WSSV) incident and details the current situation, factors influencing the likely economic cost of the WSSV incident and the role a national aquatic animal health body may have in addressing the issues and ameliorating the costs.

The second case study refers to the oyster industry and specific issues relating to translocation policy.

Case Study 1: Whitespot Syndrome Virus

Current situation

Whitespot syndrome is a disease of crustaceans, caused by whitespot syndrome virus (WSSV). It is particularly virulent in prawns and is capable of causing mortalities of up to 100% within three to ten days of onset. The disease is exotic to Australia. The disease is not harmful to humans, and the virus is destroyed by cooking.

Following the detection of WSSV in a batch of imported prawns, a survey was conducted in mid 2000 of all stocked prawn farms in Australia to assess the WSSV status of the Australian prawn aquaculture industry. All samples collected as part of the survey tested negative for the virus. The survey was carried out in accordance with Office International Des Epizooties (OIE) recommended sampling and Polymerase Chain Reaction (PCR) testing protocols (Animal Health Australia, web site, 2001).

In early December 2000, testing by PCR had detected traces of WSSV DNA in imported prawns inadvertently used as feed for cultured mud crabs and giant tiger prawns in two research facilities in Darwin, Northern Territory, and in samples of mud crabs and tiger prawns from those facilities. There were also WSSV-indicative PCR signals identified in wild shore crabs and prawns (not harvested for commercial purposes) near the outlet of one of the facilities in Darwin Harbour, but these findings were not confirmed in subsequent sampling and testing. As a precautionary measure, and in the absence of clinical disease, all crustaceans at both facilities were immediately slaughtered and the facilities disinfected.

To reduce the risks of Australian prawns being exposed to diseases found overseas, AQIS implemented a range of stringent quarantine measures applying to the importation of uncooked prawns. These include:

- requirements for health certification stating that the prawns are not showing signs of disease
- size limitations to exclude prawns most likely to be carrying disease and also those most likely to be used as bait or feed for aquatic animals
- inspection of prawn consignments on arrival to Australia
- laboratory testing of prawns to ensure they are not carrying the disease known as whitespot syndrome virus (WSSV)
- requirements that each package of imported prawns is labelled with a warning that the contents are not to be used a bait or feed for aquatic animals
- controls on the processing of imported prawns to ensure that waste and effluent is handled in a manner which minimises the risks to Australia's aquatic animal stocks
- requirements that importers declare imported prawns will not be sold for bait. They must also keep records of all prawn imports and make these available to AQIS for audit and trace back purposes.

In addition, Biosecurity Australia is working with the States and Territories, industry groups and community organisations in the development of codes of practice and an education campaign targeted at all levels of the import chain from the importer to the end user to assist with the safe use and handling or imported aquatic animals and their products.

Coordination of the response to the Darwin incident was placed under the Consultative Committee on Emergency Animal Diseases (CCEAD), bringing together Commonwealth and State/Territory Chief Veterinary Officers and Directors of Fisheries as well as the diagnostic laboratories involved. CCEAD endorsed:

- a national survey to determine the WSSV status of Australian crustaceans and thus to complement the year 2000 WSSV-survey which had confirmed absence of WSSV from farmed Australian prawns;
- bioassays to determine whether the findings – obtained by PCR – reflect the presence of viable and infective virus, and to compare possible differences in pathogenicity between viruses; and
- finalisation of Biosecurity Australia's Import Risk Analysis (IRA) on prawns and prawn product as a high priority issue.

To date, testing of wild and farmed crustacean populations continues Australia wide (Animal Health Australia, web site, 2001). In April 2001, testing of wild populations of Sydney Harbour prawns resulted in a preliminary positive test for WSSV in one batch of prawns. The test for WSSV resulted in a call by the NSW Minister for Fisheries to ban imported green prawns from countries with the disease. The NSW Minister's action follows earlier calls for a ban from the Queensland based Australian Prawn Farmers' Association.

The Gippsland Lakes in Victoria have also recorded one preliminary positive test for WSSV. To date, neither the Sydney Harbour nor the Gippsland Lakes preliminary results have been confirmed by subsequent testing of duplicate samples, nor by testing of additional samples taken from the same locations. Some industry analysts claim that the publicising of preliminary results has hampered the authoritative publication of confirmed test results from the national survey. Any misrepresentation of results or reporting procedures is detrimental to the specific industries as well as to Australia's reputation as a trustworthy trading partner. If a suspect FMD outbreak would be treated with the same lack of adherence to protocols, repercussions on trade would be immediate and most severe.

WSSV is a national issue. It is relevant to the established farmed prawn industries of Queensland and NSW, the emerging industry states of Western Australia and the Northern Territory and all Australian states with a wild catch sector. WSSV is also an issue for both the seafood importing industries as well as seafood exporters. The Commonwealth has responsibilities for quarantine and export market access. At the current time, WSSV testing of domestic crustaceans is being coordinated through the Office of the Chief Veterinary Officer, and imported prawn testing is overseen by AQIS.

Economic cost

In the WSSV incident, Australia is perceived as having failed to rapidly, or even reliably, establish the status of WSSV. Factors contributing to costs for a farmed prawn industry with an annual production value of $52 million, a wild prawn industry with a catch value of $356 million, and the Australian community at large are potentially:

- Lost income for producers as a result of lost sales during bans from false alarms and/or disease outbreaks;
- Retaliation by trading partners who question the appropriateness of Australian quarantine measures implemented as a consequence of the incidence;
- Loss of "clean and green" image, and therefore loss of long term sales in both domestic and export markets;
- A reduction in the quantity of prawns imported by seafood importers due to the enhanced import testing regime which makes detection of WSSV more likely, which would decrease sales of imported prawns; and
- As a consequence of reduced imports of prawns, the prices of domestic prawns will inevitably increase (provided demand remains intact).

The need and role for a structure to manage aquatic animal health

Whilst sampling and testing is currently completed in accordance with OIE recommended protocols, the laboratories involved apply slight modifications of the same method, and there is no Australia wide, standardised and validated WSSV test that has been ring-tested in all laboratories. This situation gives an impression of lack of credibility and professionalism. At the current time, the choice of testing procedures for WSSV rests in the realm of scientific research rather than being the result of inter-laboratory calibration and standardisation.

Leadership and harmonisation of agreed testing standards might be a useful activity for a national coordinating body. Such a body might:

- Provide a national forum for advancement of issues associated with WSSV for all farmed and wild stock producing states, all sections of the industry, and the Commonwealth;
- Establish a process for selecting and agreeing on a WSSV diagnostic;
- Provide training and follow up support to state based laboratories and fisheries departments in the use of the diagnostic;
- Provide up-to-date status reports and disease status zoning information;
- Provide, preparedness response and awareness support; and
- Use WSSV as an example process for the management of other aquatic animal health diseases.

Case Study 2: Opening up of a National Oyster Industry

Current situation

The production of Sydney rock oysters is the most valuable aquaculture industry in NSW. Annually around 106 million oysters are produced, valued at approximately $29 million (NSW Fisheries).

Experience has shown that breeding Sydney rock oysters in hatcheries is very difficult. For this reason, the predominant method of obtaining Sydney rock oyster spat is by wild-catch, eg on sticks. The establishment of commercial hatcheries in NSW to provide reliable, single seed oysters would be of great benefit to the industry. Results from NSW hatcheries to date have been very disappointing and the supply of oyster spat is unreliable.

The NSW oyster industry can see major benefits in hatchery supplied spat and would support initiatives that investigate the possibility of adapting technology currently being utilised successfully in SA (Pacific oyster spat) and WA (WA rock oyster spat) to Sydney rock oysters. If necessary, the industry would encourage one of the major hatcheries in those states to produce commercial quantities of Sydney rock oysters that could then be supplied to NSW oyster farmers.

Currently, Section 216 of the Fisheries Management Act 1994 prohibits the stocking of fish, fish fry or eggs (where fish includes oysters) into any NSW waters without consent of the Minister. Before the translocation of any live oyster material will be considered, the concerned party needs to provide NSW Fisheries with a Risk Assessment Analysis utilising national policy guidelines, conducted by a suitably qualified person and including methodology and protocols which address the risks identified. Once submitted the department will review the submission before taking any further action (*pers. comm.,* Bill Rutledge, Director of Aquaculture, NSW Fisheries).

These procedures currently discourage NSW oyster farmers, who traditionally work on very tight profit margins, from exploring production alternatives that may increase the production and quality of Sydney rock oysters and facilitate the realisation of the industry's export potential. While the industry appreciates the serious threat posed by the translocation of pests and diseases with spat, they point to equal risks (e.g. ballast water release) that are not controlled with the same degree of heavy handedness.

The industry is also concerned that the prevention of the movement of all oyster material into NSW could result in a number of beneficial opportunities being lost. These opportunities may include the ability to improve production, oyster quality and expand into new markets.

A further constraint on industry at present is the lack of an appropriate testing standard in NSW with respect to export certification. This means the NSW oyster industry is unable to capture sensitive, high value Japanese and European markets.

Economic cost

Given the current procedures governing the NSW and national oyster industry, a number of economic costs may be identified including:

- Foregone production in both the shipping and receiving states;
- Foregone opportunity to develop a national spat hatchery/nursery;
- Foregone opportunity to share and improve genetic material between states;
- Foregone opportunity to develop a centre of excellence for oyster breeding (there are limited experts working in this area and most are located in WA);
- A smaller national industry than would otherwise be the case;
- Foregone production suitable for export; and
- The inability to provide national guarantees of disease free status and hence the opportunity to develop export markets.

The need and role for a structure to manage aquatic animal health

To facilitate informed decisions regarding the translocation of oysters, a number of issues need to be addressed. Firstly, there is a need within the oyster industry for a national approach to surveillance, monitoring and reporting. The surveillance, monitoring and reporting should be based on a nationally agreed upon:

- common set of principles;
- list of diseases;
- data sharing on disease status; and
- a common approach to emergency response.

Resolving these issues is important so that industry can address the relevant concerns when attempting to translocate aquatic animal material. Some form of national coordinating body would be an ideal facilitation tool to address the above issues and ultimately to increase confidence in regard to decisions that are made to translocate or refuse translocation of oyster material.

The export prospects for a nationally represented industry would also be improved compared to current conditions where individual growers or organisations attempt to satisfy export markets of product reliability and disease/pest free status.

How might a national coordinating body deliver for the Oyster Industry?

The proposed national coordinating body has the potential to provide for the Australian oyster industry:

- An assessment of the current *status* of surveillance and monitoring in Australia;
- Development and review of surveillance and monitoring *strategies*;
- Development of a system of surveillance and reporting *data administration;*
- An agreed *list* of reportable diseases;

- A strategy for national aquatic animal *disease reporting*;
- Adherence to *international reporting objectives*;
- *Implementation* of a reporting strategy; and
- Development of a *zoning* system based on pathogen distribution.

Wider relevance

The situation described above for the oyster industry is also relevant for translocation of:

- Farmed prawns for brood stock in and out of Queensland, the Northern Territory and Western Australia;
- Barramundi for establishment of new farms from Queensland stock in the NT and WA,
- Abalone for the transfer of wild stock for farming from all states and possibly for export;
- Mussels, including the sharing of genetic material between Victoria, Tasmania, South Australia and Western Australia; and
- Fin fish (snapper, mulloway and so on) across all Australian states.

Aquaculture in Australia is a rapidly expanding industry. As the industry grows, translocation across state boundaries will become an increasingly important issue. The proposed national coordinating body has the potential to put a framework in place now, that will facilitate national growth while decreasing the risks associated with introduction and translocation of aquatic animal material.

6 COMMERCIAL INSURANCE

The stakeholder survey and round of stakeholder consultations identified gaps relating to compensation and industry insurance cover. The purpose of this section is to identify options for addressing compensation and insurance gaps, propose a series of processes for demonstrating the level of risk associated with an aquatic animal disease and draw conclusions/recommendations on actions required.

Issues that need to be addressed

From a review of relevant papers, the study survey and state-by-state stakeholder consultation, a summary of issues in regard to aquatic animal production insurance was compiled. The summary is presented as Attachment 1.

From the attachment the following issues are drawn:

- Even for the more established aquatic animal industries (salmon, tuna, oysters, prawns, pearls), unknown risk profiles, poor diagnostic capacity and the small number of stakeholders from which to collect premiums and spread the risk of an incident, make functioning and affordable crop loss insurance difficult;
- The cost of crop loss insurance means that many, including large stakeholders, do not insure. For example, in the prawn industry annual premiums are set at 12% of gross value of production. This contrasts with, say, grains crop insurance with a typical insurance premium of 1.25% of gross crop value;
- For the minor and emerging aquatic animal sectors (yabbies, trout, abalone, mussels, other fin fish, etc) the situation is either similar or worse, ie crop insurance is very expensive or non existent;

- From the insurers' perspective, a lack of information on risk, the small number of business operations in an industry and their often close proximity to one another makes it difficult to set premiums and spread risk by collecting premiums across many stakeholders in diverse locations; and
- Insurance for compulsory government destruction, known in the insurance industry as "sovereign risk" insurance, is not offered. This is not an aquatic animal sector anomaly; "sovereign risk" is not covered by insurance in other industries. However, loss through a compulsory destruction order is potentially crippling to this industry and may result in under-reporting of disease incursions. Closing this gap through the activities of a national coordinating entity via a cost sharing of emergency response and compensation is of interest to the industry.

From the survey of the aquatic animal industry completed as part of this consultancy, insurance cover/compulsory destruction coverage was identified as a major issue by 14 of 28 stakeholders. Industry and government stakeholders indicated a desire for an AQUAPLAN management entity to have a role in setting up processes to secure improved industry insurance coverage. The section below identifies a process for facilitating improved insurance coverage.

Processes for demonstrating to the insurance sector the level of risk associated with an aquatic animal disease

A structured approach dealing with the provision of information to the insurance sector to facilitate more widespread and affordable provision of cover to the aquatic animal industry (aquaculture and wild catch fisheries) would include national action on:

1. Improved *diagnostic tools* and training to speed up the current process of disease identification and hence mitigation (currently supported by the Federal Budget Initiative as well as by Federal 'Nairn' funds under AQUAPLAN).
2. A *ratified list of significant diseases* for which destruction is prescribed or significant economic loss to the grower is likely. Diseases will need to be described as either exotic or endemic. (See Attachment 2)
3. Information on *disease probability* including probability of occurrence and spread.
4. Information on the *commercial species affected* by the disease (for example agent X only affects crustaceans).
5. Information on *occurrence zones* for diseases of concern (for example agent X only survives in tropical waters) and definition of these zones.
6. Information on the *treatment* required ie compulsory destruction or chemical treatment.
7. Documentation on industry current disease *status* for each significant/notifiable disease.
8. An outline of industry/stakeholder *current disease management* activities (eg activities run by industry associations, State and Commonwealth agencies).
9. Specification of relevant industry links to *food safety programs* and HACCP Plans in order to demonstrate additional risk management activities already in place.
10. Provision of information on the *value of the industry* and the potential impact of each particular disease outbreak (for example if disease breaks out in a pen of salmon insurer may be exposed to a $1 million loss in that one pen).
11. Design and implementation of *surveillance, monitoring and reporting systems* as proposed under AQUAPLAN to ensure early warning/notification and to close any existing gaps in preparedness and response.
12. *Documentation* of disease risk information as specified in 1 to 8 above and making it available to the insurance industry.

13. Maintenance of an *online disease database* that is regularly updated and available to the insurance industry – this could be linked to the AQUAPLAN implementation entity's website or the relevant administration agency.

A process, such as the above, would need industry support and commitment to be credible. If successful it would have the benefit of harmonising existing state arrangements.

Crop loss insurance

Crop loss insurance was identified by stakeholders as another important issue that proposed national coordinating body should address. Options associated with crop loss insurance include:

- Commercial insurance whereby information on disease risk, identification, reporting and control measures are described and information is made available to underwriters, ie there is some collective action to describe the industry and the risk being insured;
- Some form of clubbing arrangement whereby an umbrella organisation such as the proposed national coordinating body manages contributions and funds accumulated for distribution following an event (oysters in South Australia have followed this arrangement and took 4 years for funds to build up to a level that would meet a pay out); and
- Establish a levy that does not become operational until a specific disease event occurs. This would ensure that the time consuming levy establishment process would be completed should an event occur.

The major industries of salmon, tuna, oysters and prawns all believe that there is a role for a national coordinating body in crop loss insurance products. One of the industry perceived roles for such a body with regard to crop loss insurance is to reassure insurance companies that the aquatic animal industries are minimising risk through nationally recognised programs under the national aquatic animal health body (eg surveillance & monitoring, research & development, preparedness & response and awareness). This would reduce premiums and make insurance more attractive to industry.

One of the impediments to increased insurance industry participation within the aquatic animal industries is that aquatic disease spread/introduction is quite often out of producers' control. Disease spread and introduction is influenced by many factors, including shipping (both recreational and commercial) and the importation of aquatic animal products that may then make their way into the aquatic environment.

Industry views a national coordinating body as a vehicle to illustrate to the insurance industry that the aquatic animal industries are minimising the risk of their industry contracting disease. They also see the body as being a facilitator between aquatic animal industries, the insurance industry and government.

Conclusions and recommendations

Further development of commercial insurance products (as described in option one) will provide the most suitable mechanism to address industry concerns with regards crop loss insurance. Other assistance measures to benefit all stakeholders would be to put a plan in place to increase awareness of insurance products and the parameters by which insurance products are defined.

7 FUNDING AND COMPENSATION FOR COMPULSORY DESTRUCTION

The stakeholder survey and round of stakeholder consultations identified gaps relating to funding and compensation. The purpose of this section is to identify options for addressing

compensation and funding gaps and draw conclusions/recommendations on actions required.

Compulsory destruction

From the summary of industry consultation contained in Attachment 1, it can be seen that coverage for compulsory destruction of stock in a disease outbreak is a major gap in the management of the industry from an aquatic animal health perspective. Options to cover this gap include:

- Do nothing, and allow the status quo to prevail. Under this option an affected individual bears all the cost of compulsory destruction. This acts as a disincentive to declare suspected disease incursions;
- Undertake institutional initiatives at a national level to decrease the perceived and real risk of disease outbreak (as described earlier);
- Establish cost-sharing arrangements in which compensation for compulsory destruction is covered and the percentage share of cost is negotiated in advance by industry and government.
- Investigate establishing a compulsory levy with matching Commonwealth contribution to provide a means of compensating for compulsory destruction.

Formulating workable plans for dealing with compulsory destruction is a balancing act. The need to eliminate the disincentive for reporting disease (this may occur where there is zero compensation for compulsory destruction) must be balanced with the need to ensure that there is sufficient incentive for producers to guard against disease. A mindset where farmers do not maintain the health of their stock, because they understand that if their crop is compulsorily destroyed it will be compensated, is not desirable for those contributing to the fund. A framework that provides coverage for compulsory destruction requires defined standards (eg a minimum acceptable level of sanitation) to legitimise any claims made for compulsory destruction of crops.

Funding

It would appear that the mechanism for resolving compulsory destruction issues is for a cost sharing agreement to be formulated between the three key stakeholder groups; industry, State/Territory and Commonwealth Governments (similar to that being advanced by AHA and PHA).

A recent study conducted for Plant Health Australia considered funding for the emergency containment and eradication of exotic plant pests and diseases[4]. The paper discussed the general issues of incursion risk management and the importance of agreed upon cost-sharing arrangements in effective risk management. A starting point for considering cost-sharing arrangements is the determination of a set of underlying key principles, which form the foundation of a fair and equitable cost-sharing arrangement. It is worth restating here the list of 11 key principles[5] agreed upon by government officials and plant industry representatives.

1. Immediate reporting of, and rapid response to, suspected exotic disease outbreaks;
2. incursions capable of being eradicated and/or contained;
3. beneficiary contributes;
4. equitable sharing of financial burden;
5. no one better off or worse off as a result of reporting an incident;

[4] Reeves, G. 2001, *Funding and compensation for emergency eradication of exotic plant pests and diseases* , a discussion paper prepared for Plant Health Australia.

[5] The first 10 principles are contained in the soon to be signed deed to fund the eradication of exotic diseases of animals.

6. certainty in funding and compensation;
7. certainty, consistency, integration and efficiency of structures and processes;
8. stakeholders who share the costs of incursion management have a role in decision making
9. accountability to stakeholders who fund incursion management;
10. simplicity; and
11. 'risk creator contributes' – major contributors to incursion risk should contribute to the funding of eradication programs.

Recommendation

Given the importance of the issues raised during the stakeholder consultations relating to the compulsory destruction of stock in a disease outbreak, it is recommended that a study on the funding and compensation for emergency eradication of exotic aquatic animal diseases be undertaken as soon as possible.

8 LEVIES

Compulsory levies are a matter of the highest sensitivity with industry. The purpose of the levy, i.e. what it is to finance, needs to be fully developed and understood by potential levy payers and this requires extensive industry consultation. The most common reason for a levy, i.e. research, is not even accepted in the aquatic sector – the prawn industry is the only sector with a compulsory levy. Clearly, agreement on the activities to be financed by a levy is necessary before decisions can be made regarding the nature and application of new levies.

Raising industry contributions can be achieved either through *mandatory levies* or through *voluntary contributions*. A significant concern with voluntary contributions is the 'free-rider' effect, in which individual operators would benefit from the disease plans and response strategies, irrespective of whether they had contributed to their development or not. Voluntary contributions would still require the development of an agreed mechanism for collection and payment schedule.

Mandatory levies

Mandatory levies require new legislation and approval from Cabinet. Similar legislation already exists under the Commonwealth *Primary Industries Levy Act* to facilitate the collection of levies from terrestrial animal industries to support their contributions to AHA.

Establishment of a new levy requires that the industry body or bodies demonstrate to government majority industry support (including those who are not members of an industry association or peak body) for the levy, and the levy must comply with the 12 Levy Principles set down by the Commonwealth government[6].

AFFA can provide advice to the industry body (initiator) of the levy on appropriate industry consultation processes with respect to meeting Levy Principles 2 and 3 and on the application of the Levy Guidelines.

[6] Principle and guidelines for applying levies are provided at Attachment 3.

Mechanisms for collecting industry contributions

The basic steps in seeking to progress a compulsory levy are: to satisfy the 12 principles; determine an agreed mechanism for collection; determine the required rate; identify the industry participants; develop the legislation; and finally implement the levy.

Levies can be applied in a variety of ways to meet specific industry needs. Generally these methods include: a stepped rate; on weight of product; per unit of product; or as an ad valorem levy which is a percentage of value ex-farm gate.

Commonwealth levies are an excise tax, and are therefore generally applied directly to the product for which the levy is being collected. There are obvious benefits in developing a mechanism for collection which can be applied for a variety of purposes (marketing, health, residue testing, research and development), which provides the industry with more flexibility and a cost-effective means of raising revenue.

Conclusions

In the course of the stakeholder consultations, it was not possible to engage industry about mandatory levies because views within industry were mixed about the need for a national aquatic animal health management, i.e. there was no agreement on what would be financed by a levy. Clearly, there is a need to identify the activity(s) to be financed by the levy before a discussion of levies, either compulsory or voluntary, can be undertaken.

9 WHAT'S NEXT?

In addressing the issues raised in this paper and in the round of stakeholder consultations, there are a number of matters requiring further discussion and resolution (at the national workshop). These are:

- agreement on the specific activities that require addressing at a national level. These might include:
  - translocation and zoning, which must encompass 'tools' such as monitoring and surveillance and diagnostics;
  - compensation for compulsory destruction; and
  - risk management and insurance.
- appropriate structures, processes and funding arrangements that provide for the effective further exploration of, agreement on, and implementation of these specific activities. These might include:
  - using existing structures (FHMC) with major modification; or
  - establishing, in a least cost manner, some form of incorporated entity that could be attached to and existing organisation (e.g. AHA) and provided with administrative services.

ATTACHMENT 1: Summary of Insurance Status

Issues are sum marised, in the table below, for each of the largest aquatic animal sectors.

Question	Salmon	Tuna	Oysters	Prawns	Pearls
Contacts	Pheroze Jungalwalla (TAS)	Brian Jeffries, TBOA (SA)	Ray Tynan , OFA (NSW) Tempe Deane, NSW Farmers Peter Robinson, Aon Risk Services	Martin Breen, APFA (QLD)	Brett McCallum, PGA (WA)
Crop Loss Insurance	• Yes, commercial insurance available • Marsh-McClelland, TAS. brokers. • Limited losses covered, high premiums and excess. • Coverage for major production disaster, not loss of a few fish • A number of stakeholders do have insurance but it is predominantly 'catastrophe cover' for $M losses not small scale.	• Yes • Premium 3% of total costs • 2 brokers in Port Lincoln • 3 underwriters including (Aquarius) • No record of tuna virus' in wild. Some parasites.	• (RT) doesn't know of anyone with Crop Loss Insurance. • (PR) Crop Loss Insurance is available but not often taken out because most farmers have their leases spread out & do not believe that they will lose all their produce at once. • (PR) None in NSW. Some in Tasmania. • Premium ~4% of biomass value (value of oyster in water eg juvenile or on stick in cluster etc.)	• Yes, Australian Agency Pool Pty Ltd and Aquarius • Lloyds to underwrite • But cost prohibitive • Service available but no one using it because premiums are too high. • Premiums are currently 12% of production.	• Yes, aquaculture insurance. • Premiums are determined by underwriter. • Brokers include Gault Armstrong & Kemble plus others. Underwriters include Sunderland Marine plus others.
Diseases or events covered	Coverage for: 1. Storms 2. Diseases (not specific diseases as such – just need to demonstrate that the losses were caused by a pathogen). 3. Damage by boats etc.	Major areas of coverage are: 1. Storm 2. Escapement (or net failure) NB: Last significant net failure occurred in 1998	• (RT) believes that cover is decided by negotiation. • (PR) Insurance covers specific diseases (eg mortality but not QX disease), theft, predators & pollution. • The cover is tailored to each grower which means the premium varies.	No specifications as no one is actually covered.	• All diseases can be covered under the above insurance.

APPENDIX 1: Summary of Insurance

Question	Salmon	Tuna	Oysters	Prawns	Pearls
Cover for Compulsory Destruction of Stock	No	No, but TBOA investigating disease status for proscribed slaughter	No, and compulsory destruction is unlikely in this industry (NSW Farmers) • (PR) believes that there could be cover for compulsory destruction but would have to look into it.	No	No
Role for AQUAPLAN in improving crop loss products	• TSGA believe this is a major national issue and one AQUAPLAN should address	TBOA believe there is a role for AQUAPLAN in improving insurance cover. Believe the role of AQUAPLAN is to reassure insurance companies that covering tuna farms is OK & make them feel comfortable. About maximising avoidance tactics. Believe Australia should have Fish Health Surveillance infrastructure.	• (RT) believes that AQUAPLAN will look at the insurance issue as a national body.	• Yes there is a role for AQUAPLAN in Crop Loss Insurance • Helping industry to take a coordinated approach to insurance • Facilitate the industry in gaining lower (non-prohibitive) premiums • If premiums were lower probably most of industry would have insurance	
Role for AQUAPLAN in improving compulsory destruction products	• Current problem: Government has the power to order stock to be destroyed but they do not have to compensate for that order. This gap in legislation is seen as major problem. • Believes that AQUAPLAN could facilitate discussions to resolve this gap. • National issue ∴ needs to be addressed by AQUAPLAN even though regulation would come from Government.	There needs to be a disincentive to Government to instate compulsory destruction because without a disincentive no insurance company will cover compulsory destruction.	• (RT) Compulsory destruction is a national problem & therefore should be addressed by AQUAPLAN.	• Yes there is definitely a role here for AQUAPLAN 1. Compensation: believes all aquatic industries should have a compulsory levy to fund R&D, marketing & health (including compensation for compulsory destruction) 2. Definitely needs to be between industry & govt. 3. Needs to include wild catch & recreational sector.	

Question	Salmon	Tuna	Oysters	Prawns	Pearls
Industry Association involved in securing coverage	No. Discussions are currently underway to perhaps change this (co-operative insurance)	No. Individual growers are responsible for their insurance.	• (RT): OFA is involved in negotiating insurance for product & public liability but not Crop Loss / Destruction.	No	
Number of farms (nationally)	• >Of a total of 12 companies there are 7 major entities.	15 (all South Australia)	• (RT) NSW ~454 Class A license holders (must hold a Class A license to farm oysters). • (TD) 542 Sydney Rock Oyster Permit Holders nationally –NSW Fisheries	35 farms in Qld 4 NSW 2 NT • All in production currently • Most Qld farms are expanding • Expecting a farm in WA & another in NT within 12 months.	
Estimated Number with crop insurance	Majority of the >12 companies would have insurance cover.	All 15.	• (PR) None in NSW as far as Peter is aware but there are a couple in Tasmania (not Sydney Rock Oysters)	None	Approximately 80%
Does industry want AQUAPLAN involved with Crop Loss Insurance or only Compulsory Destruction	Believes that AQUAPLAN has a role in both Crop Loss & Compulsory Destruction but more as a facilitator keeping the issue current.	Yes, should be involved with both.	• (RT) Yes. Ray doesn't know how they could not be involved.	Yes – very important roles for AQUAPLAN in both Crop Loss Insurance & Compulsory Destruction.	

TSGA: Tasmanian Tuna Growers Association
TBOA: Tuna Boat Owners Association
OFA: Oyster Farmers Association
APFA: Australian Prawn Farmers Association

ATTACHMENT 2: Classification of Aquatic Animal Diseases

The purpose of this attachment to propose a methodology and document the classification of aquatic animal diseases in order to provide a framework for negotiating industry-government cost sharing arrangements for emergency response.

This task was completed by reviewing Animal Health Australia's (AHA) definition of an emergency disease and what was covered by a cost-sharing agreement along with its classification of terrestrial animal diseases. This definition and framework was then applied to the National List of Reportable Diseases of Aquatic Animals, supplemented by additional diseases identified through study consultation.

The driving principle behind the AHA classification, and hence the classification proposed for aquatic animals, was that of cost-sharing agreements on the basis of the "prime beneficiary pays". AHA's sister organisation, Plant Health Australia (PHA) is currently proceeding on the same basis, ie an emergency disease definition, with a classification system based on the beneficiary pays principle. Given the plethora of plant diseases, a categorised disease list is not proposed by PHA.

1 The Animal Health Australia Emergency Disease Definition

AHA cost sharing agreements have recently been reviewed with the objective of increasing the number of diseases listed under the agreement from 12 to 63 and including livestock industries in the decision-making and funding processes. Additionally, the review has ensured that contingency funding for diseases which are exotic or new to Australia are included in the cost sharing agreement.

An emergency disease under the AHA cost sharing agreement definition is defined as meeting one or more of the following criteria:

- It is a known disease which does not occur in endemic form in Australia, and for which it is considered to be in the national interest to be free of the disease.

- It is a variant form of an endemic disease, caused by a strain or type of the agent which can be distinguished by appropriate diagnostic methods, and which if established in Australia would impact nationally.

- It is a serious infectious disease of unknown or uncertain cause, which may on the evidence available at the time, be an entirely new disease, or one not listed in the categorised disease list (presently 63 diseases).

- It is a known endemic disease, but is occurring in such a explosive outbreak form (far beyond the severity expected), that an emergency response is required to ensure that there is not either a large-scale epidemic of national significance or serious loss of market access. *(AHA Circular No 2, 1 September 1999)*

It is proposed by the consultants that these criteria for emergency disease classification of terrestrial animals be applied to aquatic animals under AQUAPLAN.

2 Animal Health Australia Categories of Disease

There are four categories of disease in terrestrial animals that determine the levels of industry and government contributions to emergency response. The criteria used by AHA for classifying diseases into categories are summarised below.

- **Category 1- 100% Government Funded:** Category 1 diseases are ones that predominantly seriously affect human health and/or the environment (depletion of native fauna) but may only have minimal direct consequences to the livestock industries.

- **Category 2 – 80% Government and 20% Industry Funded:** Category 2 diseases have the potential to cause major national socio-economic consequences through very serious international trade losses, national market disruptions and very severe production losses in the livestock industries that are involved. This category includes diseases that may have slightly lower national socio-economic consequences, but also have significant public health and/or environmental consequences.

- **Category 3 – 50% Government and 50% Industry Funded:** Category 3 contains those diseases whose control is of moderate public benefit and have the potential to cause significant (but generally moderate) national socio-economic consequences through international trade losses, market disruptions involving two or more states and severe production losses to effective industries, but have minimal or no affect on human health or the environment.

- **Category 4 – 20% Government and 80% Industry Funded:** Category diseases are those that could be classified as being mainly production loss diseases. While there may be international trade losses and local market disruptions, these would not be of a magnitude that would be expected to significantly affect the national economy. The main beneficiaries of the successful emergency response to an outbreak of such a disease would be the affected livestock industry(s). *(AHA Circular No 2, 1 September,1999)*

With regards to aquatic animal health, categories three and four are the predominant classifications for aquatic animal health diseases. Obviously, the categories would need to be applied in a manner that is relevant to the aquatic animal health industries (eg category 3 (above) refers to market disruptions involving two or more states; for specific aquatic animal industries this criteria may be neither relevant nor appropriate).

It is proposed that this (appropriately modified) classification system be applied to cost sharing arrangements for aquatic animals under AQUAPLAN.

3. What would be Covered Under a Cost Sharing Agreement?

Cost-sharing agreements in the terrestrial animal and plant sectors are likely to include provision for payment of salaries and wages (above normal employee wages) incurred in emergency response, operating expenses incurred in emergency response and essential capital equipment required for emergency response. The AHA website provides detailed definitions of what cost items will and will not be covered by cost-sharing agreements for terrestrial animals.

Where producers are forced to destroy stock as part of an emergency disease outbreak, they are initially compensated on the basis of the market value of the stock. When their properties are no longer quarantined, they can apply for additional or “top up” compensation equal to the difference between their initial compensation payment and the market value of

the replacement stock. This means that compensation is, in effect, based on replacement market value. There is no compensation for consequential losses. The legal provisions governing determination and payment for compensation are contained in individual state and territory legislation.

3.4 Classification of Aquatic Animal Diseases for AQUAPLAN

The following list of aquatic animal diseases is drawn from the National List of Reportable Diseases of Aquatic Animals and supplemented with diseases suggested during study consultation.

It is proposed that under an industry-government cost-sharing arrangement, government funding would be triggered for the following emergency diseases. The proposed category of each disease, for cost sharing purposes, is indicated by the number in the second column.

Disease Coverage Under AQUAPLAN and Proposed Funding Category

DISEASE/AGENT	CATEGORY
FINFISH	
19. Epizootic haematopoietic necrosis	3
20. Infectious haematopoietic necrosis	3
21. *Oncorhynchus masou* virus disease	3
22. Spring viraemia of carp	3
23. Viral haemorrhagic septicaemia	3
24. Channel catfish virus disease	4
25. Viral encephalopathy and retinopathy	4
26. Infectious pancreatic necrosis	4
27. Infectious salmon anaemia	4
28. Epizootic ulcerative syndrome (*Aphanomyces invaderis*)	4
29. Bacterial kidney disease (*Renibacterium salmoninarum*)	4
30. Enteric septicaemia of catfish (*Edwardsiella ictaluri*)	4
31. Piscirickettsiosis (*Piscirickettsia salmonis*)	4
32. Gyrodactylosis (*Gyrodactylus salaris*)	4
33. Furunculosis (*Aeromonas salmonicida* subsp. *Salmonicida*)	4
34. Goldfish ulcer disease (*Aeromonas salmonicida* atypical strains)	4
35. Whirling disease (*Myxobolus cerebralis*)	4
36. Enteric redmouth disease/yersiniosis (*Yersinia ruckeri*)	4

MOLLUSCS	
1. Bonamiosis	3
Bonamia ostreae	
Bonamia sp	3
2. Haplosporidiosis	3
Haplosporidium costale	
Haplosporidium nelsoni	3
3. Marteiliosis	3
Marteilia refringens	
Marteilia sydneyi	3
4. Mikrocytosis	3
Mikrocytos mackini	
Mikrocytos roughleyi	3
5. Perkinsosis	3
Perkinsus marinus	
Perkinsus olseni	3
6. Iridoviroses	4
CRUSTACEANS [7]	
1. Baculoviral midgut gland necrosis	4
2. Nuclear polyhedrosis baculoviroses	4
Baculovirus penaei	
Penaeus monodon-type baculovirus	4
3. Infectious hypodermal and haematopoietic necrosis	4
4. Yellowhead disease virus	3
5. Crayfish plague (*Aphanomyces astaci*)	4
6. Whitespot disease	3
7. Taura syndrome	3
8. Necrotising hepatopancreatitis	4
ADDITIONAL DISEASES PROPOSED DURING AQUAPLAN SURVEY	
AGD *Neoparamoeba pemaquidensis* (fin fish)	4
Pilchard herpes virus	4
Akoya virus of pearls	4
GAV/LOV (Gill Associated Virus of crustacians)	4
Vibriosis (in fin fish, molluscs and crustaceans)	4
Streptococcus iniae (fin fish)	4
Parasitic diseases – protozoan/metazoan (in fin fish, molluscs and crustaceans)	4
Rock lobster tail rot	4
Mudworm (molluscs)	4
Withering foot syndrome (molluscs)	4
Monogeneas paracites in yellowtail kingfish	4
Snapper winter mortality (range of issues including Vibrio)	4

[7] Note that the inclusion into the National list of the two NACA-listed diseases/agents 'Gill-associated virus (GAV)' and 'Spawner mortality syndrome/Midcrop mortality syndrome (SMS/MCM)' is postponed.

ATTACHMENT 3: General Principles Applying to Proposals for New and Changed Primary Industry Levies

1. The proposed levy must relate to a function for which there is a significant market failure.
2. A request for a levy must be supported by industry bodies representing wherever possible, all levy payers, or by levy payers directly. Otherwise a levy may be initiated by the government in the public interest in consultation with the industries involved.
3. The initiator of a levy proposal shall provide an assessment of the extent, the nature and source of any opposition to the levy, and shall provide an analysis of the opposing argument and reasons why the levy should be imposed despite the argument raised against the levy. The initiator shall also demonstrate that all reasonable attempts have been made to inform levy payers of the proposal and that they have had the opportunity to comment on the proposed levy.
4. The initiator shall provide an estimate of the amount of levy to be raised to fulfil the function to be paid for by the levy, a clear plan of how the levy will be utilised, including an assessment of how the plan will benefit the levy payers in an equitable manner, and demonstrate acceptance of the plan by levy payers in a manner consistent with Principle 2.
5. The initiator must be able to demonstrate that there is agreement by a significant majority on the levy imposition/collection mechanism, or that, despite objections, the proposed mechanism is equitable in the circumstance.
6. The levy imposition must be equitable between levy payers.
7. The imposition of the levy must be related to the inputs, outputs or units of value of production of the industry or some other equitable arrangements linked to the function causing the market failure.
8. The levy collection system must be efficient and practical, and must impose the lowest possible "red tape" impact on business, subject to transparency and accountability requirements.
9. Unless new structures are proposed, the organisation or organisations which will manage expenditure of levy monies must be consulted prior to introduction of the levy.
10. The body managing expenditure of levy monies must be accountable to levy payers and to the Commonwealth.
11. Levies must be reviewed against these principles following a specified period and in a manner determined by the Government in consultation with industry at the time of the imposition of the levy.

Changes to Existing Levies.

12. The proposed change must be supported by industry bodies or by levy payers, or by the Government in the public interest. The initiator of the change must establish the case for change and, where an increase is involved, estimate the additional amount which would be raised, indicate how the increase would be spent and to demonstrate how this expenditure would benefit levy payers.

DRAFT NEW GUIDELINES APPLYING TO THE APPLICATION OF THE GOVERNMENT'S 12 LEVY PRINCIPLES

A. The principal criteria to apply to an examination of a proposal for new or changes to statutory levies are that of net industry benefit, market failure and whether a levy is practical. The net industry benefit test establishes the balance of benefits accruing to the industry generally. Market failure is avoided where only collective action by levy payers will ensure the desired outcome cost effectively (see attached paper for description of market failure and the 12 levy principles).
B. Where a demonstration of support for a levy by an industry is required and there is clear evidence that the net industry benefit and market failure tests are met, then the relevant peak industry body should conduct a vote/poll by inviting all levy payers to participate using a widely promoted publicity campaign to inform levy payers of the poll/vote. The test of support is a simple majority of levy payers who cast a vote at the meeting, or by postal ballot, of the peak industry body/Council in support of the levy proposal (see footnote).
C. In exceptional circumstances where voting is not practical under Guideline B above, and the initiator of the levy, such as an industry body, has satisfied Principle 3, then the onus is on dissenters to demonstrate that they can muster support of at least 50% of potential levy payers to oppose the implementation of the levy.
D. Where evidence of the extent to which net industry benefit and market failure tests are met is not clear cut, the required level of support by industry is 75% of voters who cast a vote. Where voting is not an option, and the initiator of the levy such as an industry body has satisfied Principle 3, then the onus is on dissenters to demonstrate that they can muster support of at least 25% of potential levy payers to oppose the implementation of the levy.
E. Decisions to instigate management of emergency animal and plant health issues, pest incursions and product safety, should on economic grounds be taken only if there is an expectation that the sum of the net industry benefit and the public benefit less the cost to government is clearly positive. However, where there are pre determined arrangements for responding to emergencies, and where there are pre determined cost sharing arrangements between governments and industry the need to satisfy levy principles should be waived.
F. As a general rule, where funding for research and development provides net industry benefit, industry needs only to satisfy points B and C above to establish appropriate support levels.

G. Where industry support is provided to Government efforts in trade access negotiations, market failure be considered on a case by case basis. Where evidence regarding net industry benefit and market failure is limited, further evidence be sought as in point D above.
H. These guidelines do not apply to the NRS except where participation in the NRS is at the instigation of the industry concerned under Guideline B. Where participation is necessary to meet certification requirements for domestic and/or international trade, or participation is in the national interest where a significant risk to public health or to trade in a product exists, the Government may require an industry to participate in the NRS and may implement statutory arrangements to recover the cost of the survey from industry.
I. Where there is failure to demonstrate a net industry benefit and market failure, statutory levies not be supported.
J. Statutory levies are not to be used to fund agri-political activities.

Footnote : AFFA will provide advice to initiators of a new levy proposal or for a change to existing levy on appropriate industry consultation processes with respect to meeting Principles 2 and 3 and the application of these Guidelines. This includes the need to widely disseminate relevant levy information to all levy payers and providing the opportunity for levy payers to express their views on the levy proposal, before bringing recommendations to Government. The Government may also decide on the need for an independent professional

assessment before approving the levy. A Summary Pro-forma has been prepared for use by Industry.

Prepared by :
Agriculture, Forestry and Fisheries Australia
September 1999

ANNEXURE 5

Resources and Funding Workshop – Summary Outcomes

The Resources and Funding workshop was held as part of the Fourth AQUAPLAN Stakeholder workshop in Brisbane, 13-16 August 2001. The main components of the Resources and Funding workshop were (1) a report on Stakeholder consultations to-date, and (2) further consideration by workshop participants of whether or not there was need for a national coordinating body, and, if so, the nature of any such body. This paper provides a summary of the Resources and Funding workshop outcomes.

1. Outcome of Stakeholder Consultation

An overview of the main issues that arose from stakeholder consultation was presented to the workshop. These issues were detailed in Working Paper 3, which was distributed to workshop participants prior to the workshop.

The Resources and Funding Consultancy aimed to consider the establishment of a national body for the future management of aquatic animal health. The establishment of a national body or structure would be for the purpose of coordinating and implementing specific aspects of AQUAPLAN that are not currently being undertaken by existing structures and organisations. Hence an important objective of the stakeholder consultation process was the need to identify such gaps.

The consultation process involved the following elements:

- Stakeholder Survey: Working Paper 1 (Issues Paper) + Questionnaire
- Survey Results: Working Paper 2
- Stakeholder Meetings in 6 State capitals
- Working Paper 3
- National Workshop, Brisbane

1.1 Stakeholder Survey

Outcomes from the stakeholder survey were summarised under the following topics.

General interest and core functions

- Industry and Governments clearly indicated that aquatic animal health is a priority for the future development of aquatic animal industries.
- Strong interest was expressed in membership of a national animal aquatic health body.
- The survey did not reveal a clear shortlist of programs that have a high priority for management or coordination by a national animal aquatic health body.
- Clarification was required over which of AQUAPLAN's programs will be funded under existing arrangements (a draft document on State and Commonwealth funding was subsequently prepared).
- Clarification was also required over what would be core functions of an aquatic animal health body.

Structure and funding:

- The survey did not reveal a stand out preference among the listed options regarding a suitable national structure.
- Joining AHA, AHA subsidiary company and incorporate in FRDC were options all worthy of further investigation.
- Clarification was required over the budgetary implications of the options.
- The majority view was that a mandatory levy is probably the only practical basis on which such a program could survive.
- Strong support for equal cost sharing between the 3 stakeholders for core functions and on a beneficiary pays basis for industry-specific initiatives.
- Strong support as well for industry sector contribution on the basis of each sector's Gross Value of Production.

Insurance and compensation:

- A clear framework for compensation arrangements in the event of a nationally significant disease outbreak is required.
- Clarification of insurance status under current policies of (deliberate) eradication is needed.
- Very little knowledge of available insurance although a few industries have significant cover.

Conclusions:

- Interest in establishing a national aquatic animal health body or structure in some form.
- Over-riding view was that there is a need for a gap analysis.
- Stakeholder consultation was seen as the first step in the analysis.
- Support greatest in eastern States and SA; not as strong in WA or Tasmania.
- Concern that the establishment of a national body is being considered when most industries are state-based, i.e. the majority of aquaculture is species- and region-specific.
- The need for national coordination of aquatic animal health in a manner similar to that for the plant and terrestrial animal sectors (i.e. through AHA and PHA) was questioned.

1.2 Stakeholder Meetings

Publication of the stakeholder survey results and a series of stakeholder meetings in the six state capitals identified a number of specific aquatic animal health issues that are not currently being handled adequately and that may benefit from coordination at the national level. Three broad issues were raised by industry as requiring attention at the national level.

i. Translocation and zoning. Representatives of the prawn, oysters and abalone sectors expressed the view that the future development of their industries would require increasing movement of breeding material across State boundaries. While there are national guidelines on translocation, existing surveillance and monitoring arrangements are not sufficient to enable States to have any policy other than a ban on the introduction of material from other States.

ii. Compensation for compulsory destruction. This was raised by a number of industry representatives. For example, a representative of the Tasmanian Salmon Growers Association said that salmon growers consider this to be an important issue. A destruction order on a single salmon pen, and there are many pens per farm, could result in a loss of $1 million of stock.

iii. Insurance and risk management. Commercial insurance cover is often prohibitively expensive with limited opportunities for underwriters to understand the risk and spread of it across sufficient industry players.

National policy on translocation:

A properly implemented and enforced policy on translocation:

- will enable certification of disease freedom;
- will lead to international market access, increased exports and industry expansion; and
- will allow industry efficiency to develop.

A national policy on translocation is more significant to those industries that are relatively dispersed (e.g. oysters, abalone, prawns).

'Monitoring & surveillance' and 'diagnostics' (a coordinated and consistent laboratory system) are seen as tools for implementing a national policy on translocation. Two case studies were prepared to demonstrate current gaps in relation to these tools and other issues related to translocation:

- Whitespot syndrome virus (WSSV)
- Opening up the national oyster industry

Whitespot Syndrome Virus (WSSV) Incident

Possible role for a national aquatic animal health body given the whitespot syndrome virus (WSSV) incident:

- Whilst sampling and testing is currently completed in accordance with OIE recommended protocols, the laboratories involved apply slight modifications of the same method.
- There is no Australia wide, standardised and validated WSSV test that has been tested in all laboratories.
- This situation gives an impression of lack of credibility and professionalism.

Leadership and harmonisation of agreed testing standards might be a useful activity for a national coordinating body. Such a body might:

- Provide a national forum for advancement of issues associated with WSSV for all farmed and wild stock producing states, all sections of the industry, and the Commonwealth.
- Establish a process for selecting and agreeing on a WSSV diagnostic.
- Provide training and follow up support to state-based laboratories and fisheries departments in the use of the diagnostic.
- Provide up-to-date status reports and disease status zoning information.
- Provide preparedness response and awareness support.
- Use WSSV as an example process for the management of other aquatic animal health diseases.

Oyster Industry Case Study

Using the oyster industry as a case study, possible outcomes from the establishment of a national body that would have relevance to industry development include:

- an assessment of the current status of surveillance and monitoring in Australia;
- development and review of surveillance and monitoring strategies;
- development of a system of surveillance and reporting data administration;
- an agreed list of reportable diseases;
- a strategy for national aquatic animal disease reporting;
- adherence to international reporting objectives;
- implementation of a reporting strategy; and
- development of a zoning system based on pathogen distribution.

Several other issues were raised in the course of the stakeholder consultations. These are discussed below.

Compulsory Destruction

The main issues raised were:

- Coverage for compulsory destruction of stock in a disease outbreak is a major gap in the management of the industry from an aquatic animal health perspective.
- Formulating workable plans for dealing with compulsory destruction is a balancing act:
  - need to eliminate the disincentive for reporting disease
  - need to ensure that there is sufficient incentive for producers to guard against disease.

Compulsory Destruction – Role for a national body?

- Assist in the development of a mechanism for resolving compulsory destruction issues.
- This likely to be a cost sharing agreement to be formulated between the three key stakeholder groups; industry, State/Territory and Commonwealth Governments (similar to that being advanced by AHA and PHA).
- Undertake a study on the funding and compensation for emergency eradication of exotic aquatic animal diseases.

Commercial Insurance

The main issues raised were:

- Functioning and affordable crop loss insurance is difficult to obtain:
  - unknown risk profiles;
  - poor diagnostic capacity; and
  - small number of stakeholders from which to collect premiums and spread the risk of an incident.
- Premiums are typically high (e.g. 12% for prawns) compared to traditional plant & animal industries (e.g. 1.25% for grain crops).

Commercial Insurance – Role for a national coordinating body

- Documentation of disease risk information and making it available to the insurance industry.
- Information on identification, reporting and control measures (nationally recognised programs) and making it available to the insurance industry.
- Some form of clubbing arrangement whereby an umbrella organisation, such as a national coordinating body, manages contributions and funds accumulated for distribution following an event.
- Increase awareness of insurance products and the parameters by which insurance products are defined .

Appropriate structure for implementation of AQUAPLAN

In summary there were two outcomes of the stakeholder consultations.

i. There was in-principle support among some industries and some States for giving further consideration to establishing national aquatic animal health management arrangements, initially in the context of the issues discussed above.

ii. It is clear that there was no support for the immediate establishment of a stand-alone national aquatic animal health body along the lines of Plant Health Australia. The option of such a body should not be further pursued at this point in time and was not to be put forward for consideration at the August workshop.

Given these outcomes, the options seemed to be limited to the following.

- Establish, in a least cost manner, some form of incorporated entity that could be attached to an existing organisation (e.g. AHA) and provided with administrative services.
- Use existing structures (FHMC) with modification.

2. Workshop Outcomes

Based on consultations outlined above, and confirmed by the Workshop, the following was concluded:

- Establishment of a stand-alone, national, joint industry/government body with a funding source based on members' contributions is not a realistic option at this point in time.
- The establishment of a subsidiary to existing bodies, e.g. Animal Health Australia, or the FRDC, may well be pursued in the future. Additional work needs to be done prior to any decision on such a move, e.g. on the actual activities the body would undertake.

- Considerable time was spent during the Workshop discussing gaps in the implementation of AQUAPLAN. "Gaps" were identified and agreed (Attachment 1) and it was then agreed that some form of national coordination should be pursued.
- General support was given for a "minimalist" low cost option, namely, consideration of an Executive Secretariat reporting to a revamped FHMC. It was also agreed that consideration should be given to locating the Executive Secretariat with some other established body (e.g. AHA) for administrative support.
- The workshop agreed to establish a Working Group, with appropriate terms of reference, membership etc. (Attachment 2) to report back to FHMC and Standing Committee.

Concern was expressed by several States and Territories over their ability to maintain and fund existing AQUAPLAN activities at the State level and were reluctant to commit additional funding for new activities.

Prepared by:
Julian Morison & Jim McColl
October, 2001

Attachment 1: Gaps in the implementation of AQUAPLAN

Program	Issues	Notes on Gap
1. International linkages		Structures in place
2. Quarantine		Structures in place
3. Surveillance, monitoring and reporting	Zoning & translocation guidelines	Commonwealth role in developing guidelines. State responsibility for implementation. **Gap:** Coordination of consistent implementation of guidelines across the states/territories (Commonwealth role?)
	Monitoring & surveillance	States responsible with industry for undertaking monitoring & surveillance on an as required basis. **Gap:** Coordination and funding of additional monitoring and surveillance. **Gap:** Coordination of state-based databases useful in market access context. Terrestrial animals have benefited from this type of coordination undertaken by AHA.
	Diagnostics	Mechanisms/processes exist for gaining approval of Australian standard techniques. Through NATA, possible for laboratories to become certified to undertake diagnostics. **Gap:** Authority to advise on most appropriate techniques. **Gap:** Means to address the shortage of diagnostic capacity Australia-wide that is becoming worse.
4. Preparedness and response	Manuals & protocols	Commonwealth has developed many manuals but don't have the resources to continue outside of budget initiative. **Gap:** Prioritising & coordinating the work to be done.
	Consultative Committee on Emergency Animal Diseases (CCEAD)	**Gap:** Coordination to ensure that State/Territory arrangements to manage disease emergencies comply with, and operate within, the CCEAD structure.
5. Awareness	Communication	**Gap:** There is a communication deficiency with many of the projects in other program areas – projects are "completed" but extension is lacking (need more than Newsletters). **Gap:** Similarly, many projects are undertaken by States but are not completed in a coordinated way.
	Training	**Gap:** Sharing the burden of preparing training materials between sectors and jurisdictions.
6. Research and development		Structures in place
7. Legislation, policies and jurisdiction	Consistent legislation and policy development	**Gap:** Coordination of consistent legislation and policy development across jurisdictions
8. Resources and funding	Compensation for compulsory destruction of stock	**Gap:** Bringing together industry, government and insurance sector to develop framework for determining funding and compensation for compulsory destruction of stock + crop loss coverage

Attachment 2

Terms Of Reference For A Working Group To Develop Options For The Delivery Of Coordination/Communication/Consultancy For Aquatic Animal Health In Australia, To Provide For A More Effective Implementation Of AQUAPLAN

A – Background

- Lead up to 4th AQUAPLAN Workshop – Brisbane: why and what processes in past.
- Workshop outcomes – agreement to establish Working Group to address coordination and implementation of AQUAPLAN. Aim to improve the effectiveness of the implementation of AQUAPLAN.

B - Tasks of the Working Group

In the light of the new operational focus a report, which includes recommendations, will be prepared on the following:

1. 'Revamping' Fish Health Management Committee

- review of the original terms of reference of FHMC, particularly its role and function, and suggest amendments if necessary;
- review of the membership of FHMC, including the position of Chair;
- review of the meeting schedules of FHMC;
- review of the reporting requirements and relationships of FHMC;
- any other relevant matter.

2. Introduction of an executive Secretariat to any revamped FHMC
A report will be prepared to include, but not necessarily be limited to, details of the structure and *modus operandi* of one or more options for an Executive Secretariat to FHMC.
Details of the structure and *modus operandi* of each option for an Executive Secretariat should include, but not necessarily be limited to:

- resources required – number of staff, expertise, skills, etc.;
- location of the Secretariat;
- funding arrangements for the Secretariat, making a distinction between core generic activities and industry specific activities;
- draft framework of a Work Plan for the Secretariat over its first year of operation giving consideration to the gaps identified at the Brisbane workshop;
- the nature of the relationship (reporting and interaction) the Secretariat will have with other committees (Standing Committee, etc.);
- positioning industries; industry governance.

The arrangements for the Executive Secretariat should include provision for a formal review after three years of operation (i.e. by 30 June 2005).

3. Recommendation on the preferred option

C - Consultation and Reporting

The Working Group should consult widely in undertaking these tasks and include at least:

- participants at the AQUAPLAN Resources and Funding Workshop held in Brisbane 14th - 15th August 2001;
- members of FHMC;
- Standing Committee on Fisheries and Aquaculture (or replacement).

The Working Group should report to FHMC by 30 September 2001.
The Commonwealth has agreed to provide funding to support to the activities of the Working Group.

D - Membership of Working Group

- Will Zacharin (Chair)
- Greg Paust
- Paul Trevethan
- Martin Breen
- Eva-Maria Bernoth
- Kevin Ellard

Working Group has capacity to co-opt as required.