

# FINAL REPORT



**Aquatic Animal Health Subprogram:  
development of strategies for  
improved stock loss insurance and for  
development of a cost-sharing  
arrangement for emergency disease  
management in aquaculture.**

**I.J. East**

**March 2004**

**FRDC Project 2003/600**



I.J. East

Aquatic Animal Health Subprogram: Development of strategies for improved stock loss insurance and for development of a cost-sharing arrangement for emergency disease management in aquaculture.

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Aquatic Animal Health Subprogram: Development of  
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## 1 TABLE OF CONTENTS

NON-TECHNICAL SUMMARY .....	5
Acknowledgments.....	7
Background.....	7
Need.....	7
Objectives.....	8
Methods .....	8
Results/Discussion .....	8
Benefits and adoption.....	8
Further Development.....	9
Planned outcomes.....	9
Conclusion .....	10
References.....	10
Appendix 1: Intellectual Property .....	10
Appendix 2: Staff.....	10
Appendix 3 – Terms of Reference for the Initial Consultancy.....	11
Appendix 4 – Terms of Reference for the pilot study (extension to the initial Consultancy).....	18
Appendix 5 – Consultant’s report for the initial consultancy .....	30
Appendix 6 – Consultant’s report for the for the pilot study (extension to the initial Consultancy).....	31

## **NON-TECHNICAL SUMMARY**

**2003/600 Aquatic Animal Health Subprogram: Aquatic Animal Health Subprogram: Development of strategies for improved stock loss insurance and for development of a cost-sharing arrangement for emergency disease management in aquaculture.**

**PRINCIPAL INVESTIGATOR:** Dr I. J. East

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### **OBJECTIVES:**

1. The development of clear recommendations on how to resolve the current problems associated with the issues of compensation for compulsory slaughter and crop loss insurance.
2. The development of an implementation strategy for the establishment of a cost-sharing arrangement covering compensation for compulsory slaughter of animals in the aquaculture

### **NON TECHNICAL SUMMARY:**

#### **OUTCOMES ACHIEVED TO DATE**

Successful completion of this project has lead to establishment of a clear pathway for aquaculture industries to access compensation for government ordered slaughter of stock as part of the response to an emergency disease incident. The pilot study provides specific details of the costs and mechanisms involved for the salmonid industry to join Animal Health Australia, become a signatory to the Emergency Animal Disease Response Agreement and have diseases of salmonids added to this agreement.

The full benefits flowing to stakeholders will be realized if the various aquaculture industries decide to adopt the recommendations of this study and avail themselves of the existing arrangements for the provision of compensation for government ordered slaughter of stock.

The aim of this study was to examine ways in which producers in the aquaculture industry could be compensated for financial loss arising from government ordered slaughter of stock as part of the response to the incursion of an emergency disease. Initially the study examined two options including:

1. Improvements to current crop loss insurance.
2. The development of a cost-sharing arrangement (CSA) between industry and the Australian and State/Territory governments to provide compensation for government ordered slaughter of stock.

The initial report of the consultant found that the insurance industry was unlikely to be able to provide coverage for compulsory destruction at a reasonable cost. Given the limited extent of insurance cover within the aquaculture industry for basic stock mortality cover and problems in obtaining reasonably priced insurance cover for compulsory destruction cover, there appears to be a market failure requiring government involvement to maintain Australia's aquatic animal health.

The consultant's preferred option for the provision of compensation for compulsory slaughter was through either aquaculture industries joining the existing Emergency Animal Disease Response Agreement administered by Animal Health Australia for the terrestrial animal industries within Australia or by the establishment of a similar agreement solely for aquaculture industries. The study also examined the available mechanisms, or lack thereof, in both Scotland and Canada that have both recently experienced significant disease events accompanied by large stock losses in their salmon industries. The absence of compensation arrangements in these countries had significant impacts on both the affected industry members and the conduct of the emergency response within each country and highlighted the necessity for a pre-existing agreement as part of the optimal strategy for disease control at a national level.

The extension to the original study provided a case study based on the salmon industry accessing compensation for government ordered slaughter by becoming members of Animal Health Australia and subsequently becoming signatories to the EADRA. The mechanisms for this process and for the addition of salmon diseases to the list of diseases covered by the EADRA are explained in detail within the reports. The reports also include costings for membership of AHA and details of how the EADRA would operate in the case of an emergency disease occurring within the salmon industry.

The pilot study also examined the option of a separate Aquaculture CSA. A separate aquatic CSA could be administered independently, or by AHA, but probably at more cost than full AHA membership. In addition, State and Commonwealth governments would be receptive to the current CSA approach, than to alternative compensatory arrangements that may set precedents for other industries.

**KEYWORDS: Compensation, cost-sharing agreement, disease, government-ordered slaughter, aquaculture.**

## **Acknowledgments**

The authors wish to thank the broad range of stakeholders including both State and Territory governments and members of the aquaculture and fishing industries for their contributions to the study. The author also wishes to specifically thank Mr Pheroze Jungalwalla, Executive Officer of the Tasmanian Salmonid Growers Association for his extensive assistance and contributions to this project.

## **Background**

As part of the response to the Nairn Review into Quarantine and the Report of the National Taskforce on Imported Fish and Fish Products, the Australian Government in 1997 allotted \$2.7 million over four years to Agriculture, Fisheries and Forestry Australia (AFFA) to develop a comprehensive aquatic animal health plan for Australia, and to address aquatic animal disease emergency management procedures.

The Fish Health Management Committee (FHMC) was established by the then Standing Committee on Agriculture and Resource Management (SCARM) in February 1998 and was tasked to 'examine and develop a comprehensive national fish health framework in close consultation with Commonwealth, State and Territory Government agencies and industry'.

In 1998, the drafting commenced of such an aquatic animal health plan called 'AQUAPLAN' by Governments and the private sector. During 1998/1999, government agencies and key members of the private sector signed on to 'AQUAPLAN', and work on priority projects commenced. In December 1999, the Federal Minister for Agriculture, Fisheries and Forestry, the Hon Warren Truss formally launched 'AQUAPLAN'.

Under AQUAPLAN, Program 8 – Resources and Funding, Project 8.2 required the investigation of "Funding to underpin aquatic animal disease emergency response arrangements" and Project 8.5 required the "Evaluation of the potential for insurance companies and underwriters to provide compensation coverage".

In January 2001, EconSearch Pty. Ltd. was retained via FRDC project 2000/601 to conduct a survey of stakeholders and determine the best structure for an umbrella body to coordinate aquatic animal within Australia. As a component of this project, stakeholders were asked to identify and comment on key issues affecting aquaculture and fisheries. The lack of any compensation for compulsory slaughter of animals due to disease, either through insurance or a cost-sharing arrangement with government, was identified as a major issue. At the 15 Feb 2002 meeting of the Aquatic Animal Health Subprogram Steering Committee (STC), the members endorsed the preparation of an FRDC grant application to address the issues of compensation for compulsory slaughter and the inadequacy of current stock loss insurance. This application has been prepared in response to these stakeholder concerns and at the request of the STC.

## **Need**

Since the advent of AQUAPLAN in 1998, despite the presence of a model in the terrestrial animal cost-sharing arrangement, the issue of a cost-sharing arrangement for funding of the response to an aquatic animal emergency disease incident has not been substantively progressed. Similarly the issue of obtaining compensation for compulsory slaughter

through insurance cover has not been substantively progressed. This project is needed to clearly define the steps required to progress these issues and develop a draft plan for consideration by stakeholders.

## **Objectives**

1. The development of clear recommendations on how to resolve the current problems associated with the issues of compensation for compulsory slaughter and crop loss insurance.
2. The development of an implementation strategy for the establishment of a cost-sharing arrangement covering compensation for compulsory slaughter of animals in the aquaculture

## **Methods**

The objectives of this project will be achieved by the following methods:

1. A consultant will be retained to provide clear recommendations on how to resolve the current problems associated with the issues of compensation for compulsory slaughter and crop loss insurance.
2. The consultant will develop an implementation strategy for the establishment of a cost-sharing arrangement covering compensation for compulsory slaughter of animals in the aquaculture and fisheries industries.
3. Prior to finalisation, draft versions of both outputs will be discussed extensively with the Subprogram Steering Committee at a face-to-face meeting.

The full Terms of Reference for the consultancy are included in Appendix 3 of this report.

After receipt of the consultant's initial report, an extension to the project was negotiated under which the consultant would conduct a pilot study to elaborate on the "preferred option" for developing a cost-sharing agreement to provide compensation for government-ordered compulsory slaughter of stock. The extension to the project was to conduct a pilot study on how the salmonid industry could access compensation for compulsory slaughter via membership of Animal Health Australia and becoming a signatory to the Emergency Animal Disease Response Agreement (EADRA). This pilot study would also identify and explore aquaculture-specific issues such as concentration of ownership and the public good component of protecting native aquatic animal species in the environment and look at how a cost-sharing agreement may have to altered to accommodate these issues

The full Terms of Reference for the pilot study are included in Appendix 4 of this report.

## **Results/Discussion**

The first and second reports of the consultant are included as Appendices 5 and 6 of this report.

## **Benefits and adoption**

The principal beneficiaries will be aquaculture producers throughout Australia. Adoption of the recommendations arising from this project will lead to establishment of a cost-sharing



agreement that will provide producers with compensation for losses incurred due to government ordered slaughter of infected or potentially infected stock. The certainty of compensation arrangements will indirectly benefit the entire industry because farmers with a disease problem will be more likely to report the incident to government authorities if they know that compensation for any losses is guaranteed. The timely reporting of disease is a major factor in the successful eradication of exotic disease incursions.

Indirect benefits will also flow to State/Territory governments that will be able to respond to disease incursions more rapidly because arrangements for funding of compensation claims and for the cost of the response to the disease incursions has been pre-determined.

Other indirect beneficiaries will include wild capture industries harvesting the same species as Australian aquaculture industries eg, the Northern Prawn Fishery, the recreational industry and the Australian environment.

Realisation of the benefits will require adoption of the reports' recommendations by industry. Historically, industry has proven reluctant to contribute to any cost-sharing arrangement. However, the aquaculture industries are now at a more mature phase of development and adoption of the recommendations is now more likely. The extensive involvement of industry, particularly the salmonid industry, in the preparation of this report also increases the likelihood of industry adopting the recommendations.

## **Further Development**

The successful establishment of a cost-sharing arrangement that incorporates compensation for government ordered compulsory slaughter now relies on individual aquaculture industries adopting the recommendations of these reports. This report requires a wide distribution to stakeholders for consideration. Further developments in establishment of a cost-sharing agreement now lie with industry and there is little more that governments can do to further promote this issue.

## **Planned outcomes**

The planned outcomes of this project were:

1. Identification of a mechanism to progress the development of a cost-sharing arrangement between industry, State/Territory governments and the Commonwealth to fund costs associated with management of emergency disease incidents in aquaculture.
2. Identification of the shortcomings of existing stock loss insurance available to aquaculturists and identification of mechanisms to improve the quality of this type of insurance.

The project's major outputs are the reports generated by the consultant. The first report (Appendix 5) clearly indicated that stock loss insurance could not be modified to include losses due to government ordered slaughter (sovereign risk) at a price that was commercially viable for the industries involved.

The "preferred option" identified in the consultant's first report and subsequently expanded upon in the consultant's second report clearly identifies an appropriate mechanism for governments and the aquaculture industries to establish a cost-sharing agreement to provide compensation in the event of government ordered slaughter during an emergency

disease incident. The “preferred option” of aquaculture industries joining Animal Health Australia and accessing the existing EADRA utilises an existing and proven mechanism currently used by terrestrial animal industries to fund costs associated with management of emergency disease incidents in aquaculture.

## **Conclusion**

This project has clearly met its objectives. The consultant’s two reports explains in detail how the aquaculture industries can resolve their current problems associated with the issues of compensation for compulsory slaughter. The problems associated with the inadequacy of crop loss insurance were more problematic and could not be resolved at a commercially acceptable cost. However these two issues were always seen as alternative solutions to the same problem (see initial Terms of Reference – Appendix 3). Thus the failure to extend insurance cover to compensate for government ordered slaughter will not be an issue if the industries elect to enter into a cost-sharing arrangement as recommended by the reports developed under this project.

The development of an implementation strategy for the establishment of a cost-sharing arrangement is described in detail in the second consultant’s report (Appendix 6).

## **References**

Not Applicable

## **Appendix 1: Intellectual Property**

This project has not developed any intellectual property that requires legal protection. The nature of the output of this project is a management process for compensation for government ordered slaughter of diseased or suspected diseased animals. The report requires wide distribution amongst stakeholders for consideration of the proposals contained in the reports.

## **Appendix 2: Staff**

Principal Investigator  
Consultant

Iain East  
Alistair McIlgorm

**Appendix 3 – Terms of Reference for the Initial Consultancy**

# CONSULTANCY FOR THE PREPARATION OF A DISCUSSION PAPER TO SUPPORT THE DEVELOPMENT OF A FRAMEWORK FOR DETERMINING FUNDING AND COMPENSATION FOR COMPULSORY DESTRUCTION OF AQUATIC ANIMAL STOCK AND CROP LOSS COVERAGE

## 1. BACKGROUND

### *AQUAPLAN*

As part of the response to the Nairn Review into Quarantine and the Report of the National Taskforce on Imported Fish and Fish Products, the Federal Government in 1997 allotted \$2.7 million over four years to Agriculture, Fisheries and Forestry Australia (AFFA) to develop a comprehensive aquatic animal health plan for Australia, and to address aquatic animal disease emergency management procedures.

The Fish Health Management Committee (FHMC) was established by the then Standing Committee on Agriculture and Resource Management (SCARM) in February 1998 and was tasked to 'examine and develop a comprehensive national fish health framework in close consultation with Commonwealth, State and Territory Government agencies and industry'.

In 1998, the drafting commenced of such an aquatic animal health plan (called 'AQUAPLAN') by Governments and the private sector. During 1998/1999, Government agencies and key members of the private sector signed on to 'AQUAPLAN', and work on priority projects commenced. In December 1999, the Federal Minister for Agriculture, Fisheries and Forestry, the Hon Warren Truss formally launched 'AQUAPLAN'.

### *Resources and Funding Consultancy – Summary Outcomes*

Under AQUAPLAN, Program 8 – Resources and Funding, two key projects are 'Funding to underpin aquatic animal disease emergency response arrangements' and 'Evaluate the potential for insurance companies and underwriters to provide compensation coverage'. In January 2001, the 'AQUAPLAN Resources and Funding Consultancy' commenced, primarily to conduct a survey of stakeholders and determine the best structure for a future umbrella body to coordinate aquatic animal within Australia. However, the consultants were also to consider the role of insurance in compensating for loss due to disease and prescribed slaughter.

As the final step of this consultancy, the Resources and Funding workshop was held as part of the Fourth AQUAPLAN Stakeholder workshop in Brisbane, 13-16 August 2001. The workshop confirmed the consultancy's earlier findings that a clear framework for compensation arrangements in the event of a nationally significant disease outbreak in aquatic animals is required. Two key areas were identified:

### *Compensation for 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.

### **Insurance and risk management**

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 compared to traditional plant & animal industries, so that 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, the workshop identified that 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.

## **2. ISSUES**

### **Compensation for Compulsory Destruction of Stock**

Destruction of diseased and potentially diseased stock is a critical component of disease control programs. The destruction, however, imposes a substantial financial burden upon the stockowner. In terrestrial animal industries, to compensate for this loss, a cost-sharing arrangement between the Commonwealth Government, State/Territory governments and Industry has been established to provide financial compensation to stockowners and to assist the combat State/Territory with the additional costs of disease control programs. A similar cost-sharing arrangement is currently being developed for plant based agricultural industries in Australia.

The advantages of a cost-sharing arrangement are many and include:

- An incentive for early reporting of disease incidents
- Certainty of financial arrangements to underpin disease control
- Adequate compensation for stockowners suffering losses
- Compensation for the costs of disease control programs

The Cost-Sharing Arrangement (CSA) for terrestrial animals is a formal agreement between the Commonwealth government, State/Territory governments, Animal Health Australia and individual industries. The CSA includes a list of 64 diseases for which a predetermined formula has been established and details the share of costs to be paid by each signatory to fund the response to an outbreak of that disease. The costs eligible for funding under the CSA include compensation for compulsory slaughter of infected animals.

The Resources and Funding Consultancy identified the need for establishment of a cost-sharing arrangement for aquatic animal industries (similar to that in existence for terrestrial animal industries and under development for plant industries), whereby agreed and pre-determined compensation would be available for stockowners whose stock was destroyed and financial support

would be available to combat States/Territories for the costs incurred in disease eradication/control programs. The establishment of such an arrangement would also require the establishment of levies to provide the industry component of the funding.

The primary aim of this section of this follow-up consultancy will be to identify a route to the establishment of a cost-sharing arrangement for aquatic animal industries and to identify and clarify issues specific to the aquaculture industries that are not covered by the existing terrestrial CSA.

### **Crop Loss Insurance**

The Resources and Funding Consultancy identified that crop loss insurance is available and widely utilised by the salmon, tuna and pearl industries. The insurance utilised by the salmon and pearl industries routinely covers loss due to disease whereas the tuna industry insurance cover is commonly restricted to storm damage and escapement/net failure. A small percentage of the edible oyster industry utilises crop loss insurance (which can include losses due to disease), but its use is not widespread. In the prawn industry, insurance is available but not utilised by any growers due to the excessive cost of premiums.

The main industry concerns with currently available insurance products are:

- No coverage for government ordered slaughter
- The quality of coverage
- The high price of premiums

The main focus of this part of the follow-up consultancy is to address the shortcomings in the present insurance policies that were identified by the Resources and Funding Consultancy and identify ways in which the quality and the extent of the insurance cover can be extended whilst maintaining or reducing the cost of insurance coverage.

### **Insurance versus compensation**

Previous work in this area has been wide-ranging to encompass all the issues of concern to the industry. However, the resolution of these issues should recognise that a CSA and insurance cover for compulsory slaughter (sovereign risk) are mutually exclusive alternatives. The consultancy needs to identify the best alternative for the aquaculture industries.

## **3. TERMS OF REFERENCE**

The following terms of reference define the scope of this consultancy:

### **A. Crop Loss Insurance**

1. Review the findings of the Resources and Funding Consultancy and establish a base line detailing progress made to date on the crop loss insurance issue.
2. Detail the limitations responsible for industry's dissatisfaction with currently available insurance policies.
3. Report on the needs/requirements of the insurance industry for that industry to address the concerns of the aquaculture industry about currently available insurance cover
4. Report on why crop loss insurance for aquaculture is so relatively expensive for aquaculture compared with comparable insurance for terrestrial animal and plant base agriculture insurance.
5. Identify mechanisms/circumstances that would lead to lower cost crop loss insurance for aquaculture industries.

6. Report on the circumstances under which insurance companies would provide insurance against loss through government ordered compulsory slaughter (sovereign loss insurance).

#### **B. Compensation for Compulsory Destruction of Stock**

1. Review the findings of the Resources and Funding Consultancy and establish a base line detailing progress made to date on the compensation issue.
2. Review the existing terrestrial animal CSA and the progress made towards developing a CSA for plant based agriculture.
3. Detail the components of the TA-CSA and the plant-CSA that are directly applicable to a potential aquatic animal CSA.
4. Detail the components of the TA-CSA and plant-CSA that are not applicable to a potential aquatic animal CSA.
5. Identify and specify what additional information would be needed to complete a draft aquatic animal CSA.
6. Develop a mechanism for the identification of aquatic animal diseases for inclusion in a CSA.
7. Develop a mechanism for the further categorisation of aquatic animal diseases identified for inclusion in a CSA.
8. Identify the impediments to establishment of a CSA arising from the lack of an industry umbrella body with the legal status to participate in legal agreements.
9. Identify the steps necessary to commence development of a CSA.
10. Examine the potential problems arising within a CSA when an affected industry is predominantly located within one State/Territory.

#### **4. MODUS OPERANDI**

This consultancy is a priority issue for the FRDC Aquatic Animal Health Subprogram Steering Committee (STC) and Scientific Advisory Committee (SAC). The consultant is to stay in close contact with the STC representatives (s) identified below throughout the term of the consultancy.

*The consultant needs to:*

1. Use the Resources and Funding Consultancy as a baseline, developing issues well beyond the position detailed in the Resources and Funding Consultancy.
2. Identify and liaise with experts in the various levels of government, key industry stakeholders and insurance providers.
3. Provide clear recommendations on how to resolve the current problems associated with the issues of compensation for compulsory slaughter and crop loss insurance.
4. Develop an implementation strategy for the establishment of a cost-sharing arrangement covering compensation for compulsory slaughter of animals in the aquaculture industries.
5. Provide an itemised budget for the completion of the contract.

In preparing their report, the consultant should be guided by the following documents (1 and 2 may be obtained through STC):

1. AQUAPLAN
2. The Resources and Funding Consultancy (Final report of FRDC project 2001/601)

3. The Terrestrial CSA
4. Documents relating to the development of a plant CSA

## 5. TIMELINES

The consultancy is to commence by 1<sup>st</sup> February 2003 and provide the final report by 31<sup>st</sup> July 2003.

## 5. CONSULTANCY SERVICES

	Service	Milestone	Performance Standard / Date for Completion
1.	Consultancy commenced	Project agreements signed.	1 <sup>st</sup> February 2003
2.	Draft report submitted	Submitted to ABG/SAC for comment	31 <sup>st</sup> May 2003 ABG/SAC accept draft report and provide feedback.
3.	Final Report submitted	Submitted to ABG/SAC for endorsement	31 <sup>st</sup> July 2003 ABG/SAC comments (see above) incorporated into final draft ABG/SAC endorse final report

## 7. BUDGET FOR THE CONSULTANCY

The budget for this consultancy should not exceed \$20,000. Expenses in excess of this budget need to be approved beforehand. The funds are to be provided under the FRDC-administered Federal Government's 'Building a National Approach to Animal and Plant Health' program.

## 8. CONTACT(S)

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STC contacts:

Pheroze Jungalwalla

Manager R&D

Tassal Limited

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**APPENDIX 4 – TERMS OF REFERENCE FOR THE PILOT STUDY  
(EXTENSION TO THE INITIAL CONSULTANCY)**

# **EXTENSION TO THE CONSULTANCY FOR THE PREPARATION OF A DISCUSSION PAPER TO SUPPORT THE DEVELOPMENT OF A FRAMEWORK FOR DETERMINING FUNDING AND COMPENSATION FOR COMPULSORY DESTRUCTION OF AQUATIC ANIMAL STOCK AND CROP LOSS COVERAGE – CONDUCT OF A PILOT STUDY ON THE DEVELOPMENT OF A COST-SHARING AGREEMENT AND ITS APPLICATION TO THE SALMON INDUSTRY**

## **1. BACKGROUND**

### *AQUAPLAN*

As part of the response to the Nairn Review into Quarantine and the Report of the National Taskforce on Imported Fish and Fish Products, the Federal Government in 1997 allotted \$2.7 million over four years to Agriculture, Fisheries and Forestry Australia (AFFA) to develop a comprehensive aquatic animal health plan for Australia, and to address aquatic animal disease emergency management procedures.

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In 1998, the drafting commenced of such an aquatic animal health plan (called ‘AQUAPLAN’) by Governments and the private sector. During 1998/1999, Government agencies and key members of the private sector signed on to ‘AQUAPLAN’, and work on priority projects commenced. In December 1999, the Federal Minister for Agriculture, Fisheries and Forestry, the Hon Warren Truss formally launched ‘AQUAPLAN’.

### *Resources and Funding Consultancy – Summary Outcomes*

Under AQUAPLAN, Program 8 – Resources and Funding, two key projects are ‘Funding to underpin aquatic animal disease emergency response arrangements’ and ‘Evaluate the potential for insurance companies and underwriters to provide compensation coverage’. In January 2001, the ‘AQUAPLAN Resources and Funding Consultancy’ commenced, primarily to conduct a survey of stakeholders and determine the best structure for a future umbrella body to coordinate aquatic animal within Australia. However, the consultants were also to consider the role of insurance in compensating for loss due to disease and prescribed slaughter.

As the final step of this consultancy, the Resources and Funding workshop was held as part of the Fourth AQUAPLAN Stakeholder workshop in Brisbane, 13-16 August 2001. The workshop confirmed the consultancy’s earlier findings that a clear framework for compensation arrangements in the event of a nationally significant disease outbreak in aquatic animals is required. Two key areas were identified:

#### **Compensation for 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.

### **Insurance and risk management**

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 compared to traditional plant & animal industries, so that 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, the workshop identified that 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.

## **2. ISSUES**

### ***Compensation for Compulsory Destruction of Stock***

Destruction of diseased and potentially diseased stock is a critical component of disease control programs. The destruction, however, imposes a substantial financial burden upon the stockowner. In terrestrial animal industries, to compensate for this loss, a cost-sharing arrangement between the Commonwealth Government, State/Territory governments and Industry has been established to provide financial compensation to stockowners and to assist the combat State/Territory with the additional costs of disease control programs. A similar cost-sharing arrangement is currently being developed for plant based agricultural industries in Australia.

The advantages of a cost-sharing arrangement are many and include:

- An incentive for early reporting of disease incidents
- Certainty of financial arrangements to underpin disease control
- Adequate compensation for stockowners suffering losses
- Compensation for the costs of disease control programs

The Emergency Animal Disease Response Arrangement (EADRA) for terrestrial animals is a formal agreement between the Commonwealth government, State/Territory governments, Animal Health Australia and individual industries. The EADRA includes a list of 64 diseases for which a predetermined formula has been established and details the share of costs to be paid by each signatory to fund the response to an outbreak of that disease. The costs eligible for funding under the EADRA include compensation for compulsory slaughter of infected animals.

The Resources and Funding Consultancy identified the need for establishment of a cost-sharing arrangement for aquatic animal industries (similar to that in existence for terrestrial animal industries and under development for plant industries), whereby agreed and pre-determined compensation would be available for stockowners whose stock was destroyed and financial support would be available to combat States/Territories for the costs incurred in disease eradication/control programs. The establishment of such an arrangement would also require the establishment of levies to provide the industry component of the funding.

The subsequent consultancy conducted by Dominion Consulting investigated the possibilities of developing compensation mechanisms through both a cost-sharing arrangement and through improvements to insurance cover. The report identified that improved insurance cover was unlikely to be available at a reasonable cost and that some sort of cost-sharing mechanism was the most likely way to address compensation for compulsory slaughter. The report also recommended that the best way forward for aquaculture industries to access/develop a cost-sharing agreement was via membership of Animal Health Australia and the addition of diseases of aquatic animals to the current Government and Industry Cost Sharing Deed.

The Aquatic Animal Health Committee recommended an extension to the consultancy in which the salmon industry would be used as a model study to explicitly identify the steps necessary for that industry to access the current Government and Industry Cost Sharing Deed. The pilot study would also provide a worked example of how the cost-sharing agreement would be applied to an emergency disease event in the salmon industry. The consultancy will also identify and clarify issues specific to the aquaculture industries that are not covered by the existing terrestrial EADRA.

### **3. TERMS OF REFERENCE**

The following terms of reference define the scope of this consultancy:

1. Detail the necessary procedures and associated costs for the salmon industry to become an associate member of Animal Health Australia (a membership that only provides access to the EADRA and not to other AHA services).
2. Detail the process whereby additional diseases are added to the current Emergency Animal Disease Response Agreement (EADRA). Identify any potential impediments to the addition of aquatic animal diseases to the EADRA. Investigate the value and/or necessity of the Aquatic Animal Health Committee being involved in this process in addition to/instead of Animal Health Committee.
3. Investigate the possibility of using the terrestrial animal EADRA as a model for a separate aquatic animal EADRA taking the form of a parallel agreement or companion document to the terrestrial animal EADRA. Explore AHA's willingness to administer such a separate agreement.
4. Review the guidelines for categorisation of diseases under the EADRA and identify any changes that would need to be made to the current guidelines to accommodate any special aspects of aquatic animals diseases. Specifically, the review of the categorisation scheme should include recognition of the greater public good component associated with fish diseases. Explore whether this is better addressed by levying additional stakeholders (recreational etc) or by upgrading the disease categorisation. Detail any special attributes of aquatic animal diseases that need to be accommodated in the disease categorisation scheme.
5. Examine the current salmon industry levy scheme and determine whether it is suitable for collection of the industry contribution to the costs of membership of the AHA.
6. Detail how the levies introduced under the EADRA to collect the industry contribution for costs associated with an emergency disease event are collected. Explore whether this current levy system is suitable for the salmon industry, and provide details of how a suitable levy system is established. What legal requirements are associated with establishment of the levy? Compare the advantages of levying the salmon industry versus levying the salmonid in terms of the number of producers required to endorse a new levy.
7. Identify any components of the current EADRA that are not applicable to the salmon industry.
8. Provide a detailed description of how the current EADRA would be utilised in response to an emergency animal disease. In particular, this should demonstrate how it would apply to:

9. an outbreak of infectious salmon anaemia in a sea-cage site
10. an outbreak of whirling disease in a freshwater hatchery
11. Conduct of part six of the consultancy should be guided by the outline provided in Attachment C.

#### **4. MODUS OPERANDI**

This consultancy is a priority issue for the FRDC Aquatic Animal Health Subprogram Steering Committee (STC) and Scientific Advisory Committee (SAC). The consultant is to stay in close contact with AFFA representatives, the STC representatives, and the project Working Group throughout the term of the consultancy.

The consultant needs to:

1. Use the Final Report of the previous consultancy completed by Dominion Consulting as a baseline and develop issues well beyond the position detailed in that report.
2. Identify and liaise with experts in the various levels of government, key industry stakeholders and insurance providers.
3. Provide clear recommendations on the process of industry accessing the current EADRA to provide compensation for compulsorily government-ordered slaughter of stock.
4. Provide an itemised budget for the completion of the contract.

In preparing their report, the consultant should be guided by the following documents (1 and 2 may be obtained through STC):

1. AQUAPLAN
2. The Final report of the previous consultancy conducted by Dominion Consulting.
3. The Terrestrial EADRA
4. Documents relating to the development of a plant EADRA
5. The attached list of questions and points that are designed to identify issues to covered in this consultancy (see Attachments A and B).
6. The Annexe to the 1996 Salmon IRA on the economic impact of infectious haematopoietic necrosis virus on the Australian Salmon industry.

#### **5. TIMELINES**

The consultancy is to commence by 20<sup>th</sup> October 2003 and provide the final report by 14<sup>th</sup> February 2004.

#### **6. CONSULTANCY SERVICES**

	<b>Service</b>	<b>Milestone</b>	<b>Performance Standard / Date for Completion</b>
1.	Consultancy commenced	Project agreements signed.	20 <sup>th</sup> October 2003
2.	Draft report submitted	Submitted to ABG/SAC and project working group for comment	19 <sup>th</sup> December 2003 ABG/SAC/WG accept draft report and provide feedback.

	<b>Service</b>	<b>Milestone</b>	<b>Performance Standard / Date for Completion</b>
3.	Final Report submitted	Submitted to ABG/SAC for endorsement	14 <sup>th</sup> February 2003  ABG/SAC/WG comments (see above) incorporated into final draft  ABG/SAC endorse final report

## **7. BUDGET FOR THE CONSULTANCY**

A final budget will be determined after receipt of the consultant's Expression of Interest. Expenses in excess of the final agreed budget need to be approved beforehand. The funds are to be provided under the FRDC-administered Federal Government's 'Building a National Approach to Animal and Plant Health' program.

## **8. CONTACT(S)**

### Primary contact in AFFA

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## **ATTACHMENT A –POINTS FOR CONSIDERATION IN THE PROPOSED CONSULTANCY**

### **Tasmanian Working Group’s response to:- Discussion Document for Design of the Pilot Study to Support the Consultant’s report into Compensation scheme for Compulsory Slaughter.**

The Tasmanian stakeholders most interested in outcomes of this project, the Tasmanian Salmonid Growers Association and the Office of the Tasmanian Chief Veterinary Officer, have formed a working group to assist the Project PI (Iain East of AFFA) and the Consultant (Alistair McIlgorm of Dominion Consulting).

This Working Group is comprised of Rod Andrewartha (Tas CVO), Kevin Ellard (TasDPIWE/Industry Fish Veterinary Officer), Owen Carington Smith (Chair TSGA), Paul Lupo (GM Sevrup Fisheries), and Pheroze Jungalwalla (Tassal Ltd but acting as coordinator).

The Group met to discuss the issue on Fri 22<sup>nd</sup> August and, accepting the invitation to use the Discussion document as the basis of a narrative, we provide below at least preliminary responses (*in italics*) to questions raised.

### **1. Preparation Phase**

The salmon industry has become a member of AHA and accessed the terrestrial EADRA.
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For the purposes of this pilot study, the industry unit of interest will be the Tasmanian Salmon Grower’s Association.

Questions to be addressed by the study would include:

1. What would be the annual cost of an ‘associate’ membership of AHA for the salmon industry to provide access to the EADRA?
2. Is AHA amenable to the idea of associate membership simply to access the EADRA?
3. What Services would be provided in the associate membership package?
4. What impact do other industry members have on the activation of the EADRA?
5. Would AHA be amenable to administering a separate compensation arrangement for aquatic animals rather than having the salmon industry join the current EADRA?
6. Is the existing TSGA levy suitable for collecting the AHA membership fee from members?
7. What increase in the levy would be necessary to meet the AHA membership fee?
8. What is the mechanism for the addition of salmon diseases to the existing EADRA?
9. How would Aquatic Animal Health Committee be included in the decision making process for addition of new diseases to the EADRA?
10. Would Animal Health Committee still retain a role in the decision making process for addition of new diseases to the EADRA?
11. Does the current EADRA differentiate between member and non-member industries ie. what happens if a disease breaks out in the trout industry? Can we draw comparisons with eg. disease in the alpaca industry that may impact the sheep industry.
12. How would an outbreak of disease in salmon or trout on the mainland be dealt with if mainland producers are not members of the TSGA?
13. How would the non-Tasmanian State Governments respond to disease in the salmon or trout industries?
14. What impact the regionalisation of aquaculture (all of one industry within one state) would have on the EADRA applying to aquaculture industries?
15. How are diseases categorised into the current Categories 1-4 within the terrestrial animal EADRA?



16. How could the disease categorisation standards in the current terrestrial animal EADRA be modified to reflect the broader stakeholder base and the greater public good component of aquatic animal disease?
17. What is the status of discussions to amend the 1% of GVP trigger point for review of expenditure under the EADRA during a disease eradication campaign?
18. What is the impact of the value of stock being concentrated in small units/area?
19. What would be a realistic trigger point for the salmon industry given the concentration of value within individual pens and/or individual farm sites?
20. Whilst consequential losses cannot be included in an EADRA, how can we ensure that the impact of consequential losses are considered in the decision making process to commence a disease eradication campaign (What would happen if eg. the SALTAS hatchery that provides 60% of smolts to the industry suffered a disease incident?)
21. How does the TSGA consider the inclusion of the Government's operational costs under the EADRA? (These may be only a small percentage of total expenditure if only marine farms are involved but may be virtually the total cost if the disease was in a wild population in a lake or river).
22. Can a guarantee be given that the diseases will be added to the EADRA prior to the salmon industry paying for membership?
23. What are the potential 'blockers' to addition of new diseases to the EADRA?
24. What is the potential timetable for membership and addition of salmon diseases to the EADRA?
25. What happens to the EADRA if the salmon industry withdraws from AHA?
26. How does categorisation of aquatic animal diseases address the non-leviable stakeholders such as:
  - Indigenous fishers
  - Recreational fishers
  - Wild capture industry
  - Tourist industries (reef snorkelling, big game fishing, scuba diving etc)
  - Wild native populations of susceptible animals

## **2. Activation Phase**

A scenario is developed whereby a salmon disease occurs in a salmon farm in Tasmania. Industry will provide details of the likely extent of the disease incident. This will include the likely number of directly affected fish (cage nos., fish nos., and value of stock) and the number of potentially affected fish on surrounding farms (note: in a real emergency, stock valuation is undertaken by an independent valuer). If the industry selects a specific location for the event, the Tasmanian CVO could be requested to indicate the likely properties to be affected by a compulsory destruction order.

The pilot study would detail:

- What are the triggers for activating the EADRA?
- What circumstances would prevent the EADRA be applied to a listed disease?
- What are the limits to the industry's financial commitment to the EADRA?
- Does industry have a say about whether the EADRA is activated or not?
- How does the current 1% of GVP check point in EADRA expenditure work?
- Who makes the decision to continue destruction and further expenditure beyond the 1% limit?
- If expenditure continues beyond the 1% checkpoint, what further checkpoints are in place (or can be put in place) to subsequently review further expenditure?
- Who decides when the "give up/go home" point is reached?

### **3. Comparative Phase of Study**

Industry has raised some concerns about both the regionalisation of aquaculture and also the concentration of ownership in aquaculture? These are valid concerns in the operation of a EADRA. Issues that need to be addressed could be answered in both actual dollar terms and in comparison with, for example, the financial exposure of a chicken farmer as a result of the recent Newcastle Disease outbreaks (as a %age of their annual income or something similar). Issues to be addressed include:

- Is a EADRA applicable to a highly localised industry such as tuna where the majority of the industry is located in one bay in South Australia? In such circumstances would government ever slaughter out as a method of disease control?
- Is a EADRA attractive to State/Territory governments (S/T) where there would be negligible sharing of the S/T component of expenditure between S/T?
- Does the highly concentrated ownership of the aquaculture industries (between 10-20 owners only in salmon, tuna, pearls) impose an "excessive financial exposure" on producers in the event of a EADRA being activated?

***This section not specifically addressed by Tasmanian Working Group.***

- Does the high net value of aquaculture industries and the localisation of that value (\$2.5 million per pen of tuna) impact on the governments' willingness to invoke the EADRA? Are the various governments involved concerned with their potentially large financial exposure in a disease event in aquaculture?
- What has actually happened in the EADRA's on terrestrial outbreaks. My understanding is that the EADRA has not been the only issue in the resolution (What I mean is where there has been destruction covered by the EADRA, has the strict terms of the EADRA been followed, or variations to it.

## ATTACHMENT B - PILOT STUDY INTO “COST SHARING AGREEMENT FOR COMPULSORY SLAUGHTER” FURTHER COMMENTS FROM TASMANIAN WORKING GROUP – 5<sup>TH</sup> SEPT 2003

Further to the WG response dated 31<sup>st</sup> Aug, some members the WG met again on Fri 5<sup>th</sup> Sept to specifically discuss characteristics of diseases which would qualify them to trigger a Compulsory Slaughter Order and consequentially invoke any EADRA developed, in relation to the Tasmanian salmonid farming industry. A summary of views and recommendations is provided below.

### CONDITIONS TO TRIGGER A CSO - EADRA

1. A CS Order may be applied by the Tas CVO in the case of confirmation of the “listed salmonid diseases” (see list below), or “other significant diseases” (see definition below). It is assumed that if a Compulsory Slaughter Order were issued, then the EADRA mechanism would automatically be activated.
2. In issuing the CS Order, the CVO would, in consultation with industry, take into consideration:-
  - a. The apparent regional containment/spread of the disease incursion, and
  - b. The extent of exposure of the industry, measured as the portion of industry stock proposed to be slaughtered/destroyed (taking into account Year Class composition and limited access to replacement stock).

### LISTED SALMONID DISEASES

This is a list of those exotic diseases taken from the National Disease List which could significantly affect salmonids, plus one type of exotic sea-lice infestation.

1	Infectious haematopoietic necrosis (IHN)
2	Infectious pancreatic necrosis (IPN)
3	Infectious salmon anaemia (ISA)
4	Oncorhynchus masou virus (OMV)
5	Viral haemorrhagic septicaemia (VHS)
6	Bacterial kidney disease ( <i>Renibacterium salmoninarum</i> )
7	Piscirickettsiosis ( <i>Piscirickettsia salmonis</i> )
8	Furunculosis ( <i>Aeromonas salmonicida salmonicida</i> )
9	Enteric redmouth disease ( <i>Yersinia ruckeri</i> – Hagerman strain)
10	Whirling disease ( <i>Myxobolus cerebralis</i> )
11	Gyrodactylosis ( <i>Gyrodactylus salaris</i> )
12	Sealice ( <i>Lepeoptheirus salmonis</i> )

### OTHER SIGNIFICANT DISEASES

The purpose of this category is allow for the CSO – EADRA to be activated if necessary in the case of a serious but relatively unknown disease.

Other Significant Diseases would include:-

- Those causing significant morbidity or mortality, and
- appear to be transmissible, and
- have not been encountered endemically,  
but
- for which the aetiological agent has not yet been identified, or
- for which a standard diagnostic test is not yet available, or

- for which the risk of epizootic spread is of serious concern, or
- for which there is serious zoonotic concern.

The TWG also raises the following issue.

**Value of stock**

It is likely that, in order to be successful in containing a disease incursion, any CS Order would need to be applied to several fish pens or even a complete farm site. Typical value of harvest sized salmon would be \$0.5 to \$1.0 m in a single pen; or \$10 - \$20m on a site.

Destruction of smaller than harvestable fish creates other distortions. Because the cycle from stripped eggs to harvest is some 3.5 years, and seedstock (eggs / fry / smolt) is only generated in discrete year classes, the consequential loss of losing a given number of juvenile fish can be disproportionately large and far reaching.

Because there is little prospect for acquiring replacement stock from outside the Tasmanian industry, losses to a CS Order are unlikely to be replaced within that year class.

In light of the above, it is recommended that the Pilot Study should address the concept of a scale of compensation for stock at varying life history stages, and should create a simple model cost-benefit analysis to indicate trigger levels where a CS Order may cease to be a cost effective way to manage a disease incursion.

It is also recommended that in order to reveal the implications of the significant differences between a CS Order applied to a typical salmonid freshwater hatchery and to a typical salmonid marine farm, the Pilot Study should explore parallel disease scenarios dealing with Whirling disease, and Infectious Salmon Anaemia.

## **ATTACHMENT C – OUTLINE OF THE STEPS IN THE MODEL STUDY AND ASSOCIATED RESPONSIBILITIES.**

1. Emergency disease event occurs in a Tasmanian sea-cage site – TSGA to nominate site, number of sea-cages and number of stock and value of stock at that site. TSGA to provide a map of the site and adjacent sites as identified under point 2.
2. Tasmanian CVO decides to invoke a compulsory slaughter order – Tasmanian CVO to identify what sea-cages would be destocked on both affected site and any other sites either geographically close or potentially affected sites in the same estuary.
3. Tasmanian CVO details his actions in the notification of the Commonwealth CVO, request for a CCEAD meeting and implementation of the EADRA
4. Consultant details the make-up of the National Management Group (NMG) and the process whereby the NMG decides to invoke the EADRA
5. Consultant details the nature of allowable costs and non-allowable costs in the destocking process.
6. Consultant estimates the total costs associated with destocking sites nominated under point 2. Consultant determines whether this total cost exceeds 1% GVP of the salmon industry.
7. Consultant details the options available to the NMG if total costs exceed 1% GVP.
8. Consultant provides breakdown of Commonwealth, State and Industry shares of the cost of the destocking program. Cost breakdowns will be presented for each category of disease (100% government contribution, 80%, 50% and 20%).
9. Consultant details how industry levy is activated to collect industry contribution as detailed in the EADRA.

**APPENDIX 5 – CONSULTANT’S REPORT FOR THE INITIAL CONSULTANCY**

*Not for public distribution*

**APPENDIX 6 – CONSULTANT’S REPORT FOR THE FOR THE PILOT STUDY (EXTENSION TO THE INITIAL CONSULTANCY)**

*Not for public distribution*