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Building Biosecurity Capability across the Wild Harvest Fisheries

Final Report

Eric Perez

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In submitting this report, the researcher has agreed to FRDC publishing this material in its edited form.

Contents

Contents.....	3
Acknowledgements	4
1. Executive Summary.....	5
1.1. What the report is about.....	5
1.2. Background.....	5
1.3. Aims and Objectives	5
1.4. Methodology and Results	6
1.5. Discussion.....	6
1.6. Research and Development Benefit.....	6
1.7. Implications.....	6
1.8. Recommendations.....	6
1.9. Keywords	6
2. Introduction	6
2.1. Background.....	6
2.1.1. White Spot Disease	6
2.1.2. White Spot Disease Research and Development needs Workshop.....	7
2.1.3. QSIA Biosecurity Project.....	7
2.2. The problem statement.....	8
3. Objectives.....	8
4. Method and Results	8
4.1. Method	8
4.2. Results.....	9
5. Discussion	9
6. Research and Development Benefits.....	10
7. Implications	10
8. Recommendations	10
9. Extension.....	10
9.1. Extension Part 1: Industry Contacts.....	11
9.2. Extension Part 2: Facebook	11
9.3. Queensland Seafood Magazine.....	11
10. Project materials developed	12

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1. Executive Summary

1.1. What the report is about

This report addresses an information and education need amongst the wild catch commercial fishing sector regarding biosecurity preparedness. In doing so, the project has led to the production of three information/education videos. The first and second videos focussed on the importance of biosecurity from a wild harvest and post-harvest perspectives featuring commentary from industry, researchers and government. The final animated video focuses on identifying key terms, industry responsibility as it relates to biosecurity, the role of the State and Federal governments.

The report outlines the process used to develop the videos. Combined, the videos lay a foundation for a better understanding of biosecurity issues from a seafood supply chain perspective.

1.2. Background

Two key events were cited as the rationale for this project. The first event was a White Spot Disease (WSD) Research and Development needs workshop held in Brisbane on Wednesday 18 October 2017. The forum provided an opportunity to unpack the available biosecurity research and other issues amongst industry with respect to the detection of White spot syndrome virus (WSSV). The outbreak of WSSV challenged both the State government and industry in terms of preparedness for the impact of a biosecurity threat.

The second event involved the QSIA being encouraged to apply for a Commonwealth grant to develop a wild harvest fisheries biosecurity plan and industry communication toolkit. Dr Ben Diggles was appointed Biosecurity and Industry Liaison Officer (BILO) and worked with the QSIA CEO, Eric Perez, to deliver the project.

The government and industry response at the meeting demonstrated gaps in the wild harvest sector's knowledge of biosecurity concepts. There is a need to greatly increase industry capacity to respond to biosecurity threats. The project is fundamentally a people development project aimed at extending the work of the BILO and significantly boost industry preparedness. This project addressed the information and education gaps identified amongst the Queensland seafood industry.

The Biosecurity Act 2014 (Qld), section 23 defines the meaning of a general biosecurity obligation. Subsections (1) and (2) of the legislation states: (1) This section applies to a person who deals with biosecurity matter or a carrier, or carries out an activity, if the person knows or ought reasonably to know that the biosecurity matter, carrier or activity poses or is likely to pose a biosecurity risk and (2) The person has an obligation (a general biosecurity obligation) to take all reasonable and practical measures to prevent or minimise the biosecurity risk.

This project compliments the work developed by the BILO. The linking of written and video material will provide industry with multiple platforms to engage on the critical issue of biosecurity.

1.3. Aims and Objectives

The aim of this project was to provide video material to enhance industry preparedness regarding biosecurity risks. The project set four objectives including:

- Increasing the Queensland and national wild capture fisheries preparedness in the event of biosecurity emergencies.
- Provide an information and education platform (using QSIA's web presence) to industry.
- Provide video biosecurity material to industry to enhance BILO written biosecurity material.
- Deliver biosecurity information developed by industry, government and biosecurity experts.

1.4. Methodology and Results

The focus of this project is the production of three video clips incorporating harvest and post-harvest commercial fishing operators and a third, animated video clip. The video materials would complement the written material developed under the BILO project.

Millstream Production and QSIA coordinated a workshop in Brisbane in mid-December 2017 to undertake production scoping. Consultation with key stakeholder groups coordinated by QSIA and Millstream, led to the development of a series of video clip production plans based on detailed scripts. This led to the production of industry videos and delivering key biosecurity messages in a simple format.

1.5. Discussion

The project has delivered on the creation of industry-focussed, information and educational video material relating to the importance of biosecurity.

1.6. Research and Development Benefit

This project has led to improvements in knowledge, increased production of biosecurity material, increased awareness and potential for passive surveillance amongst industry operators.

1.7. Implications

Developing the material for this project has highlighted the need for greater industry preparedness for potential pathogen incursions into the Australian marine environment. Biosecurity and fisheries managers need to understand their obligations under the various State and Territory biosecurity legislative instruments. More importantly, the need for government, researchers and industry working together underpins the overall response to future disease outbreaks.

1.8. Recommendations

The development of the video material compliments material already developed by the QSIA but is part of an ongoing education and information sharing process. Further discussions with industry are needed to assess what, if any, additional materials are needed to help industry respond to biosecurity incidents versus improving industry understanding of why biosecurity is a critical issue.

1.9. Keywords

Biosecurity, industry biosecurity preparedness, harvest and post-harvest fisheries.

2. Introduction

2.1. Background

2.1.1. White Spot Disease

The WSD outbreak in Black Tiger Prawns (*Penaeus monodon*) cultured on the Logan River was first confirmed 1 December 2016. By the end of December 2016 5 nearby prawn farms were infected with WSD with detections in samples taken from wild prawns in the Logan River. A sixth and seventh farm were confirmed positive for WSD by mid-February 2017 in the Logan River region. WSD was then found in samples collected from wild prawns in the Moreton Bay area.

In terms of the progression of the disease in the Moreton Bay region:

- Biosecurity Queensland has completed disease control activities to decontaminate each aquaculture farm, and all farms have now completed a 12-month fallow period and are able to return to production, which three farms have.
- Extensive surveillance for WSD is being conducted in Moreton Bay and along the east coast of Queensland every six months.
- Movement restrictions are in place across Moreton Bay to protect the wild harvest and aquaculture sectors.
- A movement exemption exists for low-risk species such as crabs, lobster and bugs. Movements are allowed under permit for bait products that have been specifically treated in accordance with strict requirements.
- The movement restrictions are impacting a range of industries including; bloodworm, prawn farming, commercial trawlers, recreational fishers, seafood retailers, seafood supply chain businesses, bait and tackle retailers and suppliers.
- Fishing restrictions are also in place near prawn farms in the Logan River region to reduce the likelihood of further disease outbreaks.

2.1.2. White Spot Disease Research and Development needs Workshop

To address the WSD issue, an R&D needs workshop was held in Brisbane on Wednesday 18 October 2017 funded by the FRDC and attended by industry, government and researchers. The forum helped to identify, prioritise and articulate WSD R&D needs of governments and industry to support surveillance, biosecurity and production.

The FRDC has supported immediate response projects to provide information to guide industry and government agencies involved in the response to the WSSV in southern Queensland. It was noted by the FRDC's Aquatic Animal Health & Biosecurity Subprogram and other funding providers would need to continue to support R&D to close key knowledge gaps.

Consequently, the workshop provided the opportunity for stakeholders to articulate their current and future research needs, prioritise those research needs, coordinate collaboration between responsible agencies and identify potential funding sources.

2.1.3. QSIA Biosecurity Project

The outbreak of WSSV highlighted how underprepared industry was for a biosecurity threat and the subsequent response. The QSIA applied for a low-risk Commonwealth grant to deliver a Queensland biosecurity plan and industry communication toolkit.

The Queensland seafood industry biosecurity plan aimed to enhance the ability of Queensland's wild harvest seafood industry to prepare for, identify, mitigate the impact of and respond to future biosecurity incidents by:

- Developing a commercial seafood industry biosecurity plan, to prepare the industry for future responses to biosecurity incidents;
- Reviewing and implementing best practice biosecurity measures within the wild harvest seafood industry; and
- Communicating with and educating stakeholders about the characteristics, prevention and management of aquatic pests and diseases.

The aim of developing wild harvest fishery biosecurity plans and tool kit materials was to improve industry understanding and awareness of biosecurity issues. Specifically, the aim was to develop the necessary skills

to become more aware of their general biosecurity obligations and responsibilities under the *Queensland Biosecurity Act 2014*, and to know what to do if industry suspect the presence of a major aquatic pest or disease.

What is a general biosecurity obligation, under section 23 of the Act, subsections (1) and (2) state: (1) This section applies to a person who deals with biosecurity matter or a carrier, or carries out an activity, if the person knows or ought reasonably to know that the biosecurity matter, carrier or activity poses or is likely to pose a biosecurity risk and (2) The person has an obligation (a general biosecurity obligation) to take all reasonable and practical measures to prevent or minimise the biosecurity risk.

A biosecurity and fishery specific plans were developed in addition to disease information sheets covering crustaceans, finfish and molluscs.

The workshop and QSIA biosecurity project helped to identify the need for more material for use by industry to help educate the commercial seafood industry around biosecurity matters. The incursion of WSSV was the catalyst for the biosecurity work undertaken by the QSIA with support from the FRDC.

2.2. The problem statement

This report addresses the requirement for information and education amongst the wild catch commercial fishing sector regarding biosecurity preparedness.

The incursion of WSSV in south-east Queensland took government at the State and Federal levels and industry by surprise. No government agency or industry body in the commercial fishing sector had developed industry specific biosecurity material.

The video material produced by this project was paired with work already undertaken under the QSIA biosecurity project and will help to develop industry understanding of biosecurity issues.

3. Objectives

This project is industry development focussed and makes a contribution to biosecurity material already developed by QSIA through the work of Dr Ben Diggles. The project objectives included:

- Increase the Queensland and national wild capture fisheries preparedness in the event of biosecurity emergencies.
- Provide an information and education platform (using QSIA's web presence) to industry.
- Provide video biosecurity material to industry to enhance BILO written biosecurity material.
- Deliver biosecurity information developed by industry, government and biosecurity experts.

4. Method and Results

4.1. Method

QSIA and Millstream Production coordinated a workshop in Brisbane in mid-December 2017 to undertake some production scoping to inform the application that led to this project. In consultation with key stakeholder groups coordinated by QSIA and Millstream led to the development of a series of video clip production plans based on detailed scripts.

The video clip production was reliant on developing a series of video clip scripts which are outlined in Attachments 1 and 2 respectively. Each video produced had an overall objective and narrative. The guiding outline for each video production is summarised follows:

- Harvest sector video clip – Presentation showing commercial fishers discussing importance of biosecurity.

- Post-harvest sector video clip – Post harvest operator presentation showing retailer or wholesaler discussing importance of biosecurity.
- Biosecurity basics video clip – Animated video bringing together the context in which the community’s biosecurity obligations involve industry. The animation links the roles of State and Federal government and how industry can be front line ‘shield’ against pathogen incursion.

The harvest and post-harvest video clips were produced and filmed by Millstream Productions with the assistance of commercial seafood industry operators, public servants and research expertise. Material was filmed in Cairns, Townsville, Hervey Bay and Brisbane. The scripts were shared amongst stakeholders for comment and once comments were collated the video clips were finalised.

The videos were produced with the insights and experience of the following groups:

- Industry Association Group: Eric Perez (QSIA CEO), Marshall Betzel (President Queensland Seafood Marketers Association (QSMA)) and Neil Moretto (Secretary QSMA).
- Research Expert: Dr Ben Diggles (Managing Director, DigsFish Services Pty Ltd).
- Video Production Group: Matthew Blyth and Alaneo Gloor (Millstream Productions) and Gary Clark (Swamp Productions Pty Ltd).
- Harvest Group: Margaret, Graham and Jacob Stevenson (commercial net fishers), Elaine Lewthwaite (commercial trawl fisher), Nathan Rynn (commercial crab, line and net fisher), Brett Fuchs (commercial net fisher), Stephen Murphy (commercial trawl fisher, retailer and processor) and Neil, Leanne and Sienna Green (commercial crab and line fishers) and Richard Hamilton (commercial crab fisher).
- Post-Harvest Group: Marshall Betzel and Neil Moretto (seafood wholesalers), Dr Andrew Tobin (commercial line fisher, researcher and seafood retailers) and Dr Renae Tobin (researcher and seafood retailer),
- Government Group: Biosecurity Queensland (BQ) – Kerrod Beattie (Director, White Spot Program), Dr Stephen Wesche (Planning and Policy Manager), Chris Hollingdrake (Communication and Engagement Manager) and Maria Hauff (Senior Media and Communication Officer).

Dr Matt Landos (Director, Future Fisheries Veterinary Service Pty Ltd), Annie Jarrett (Chair, Australian Council of Prawn Fisheries (ACPF)) and Ingo Ernst (Director Aquatic Pest and Health Policy, Animal Division, Department of Agriculture and Water Resources) provided feedback in the development of the project.

4.2. Results

The overall project performance indicator was the development of three biosecurity videos. The harvest, post-harvest and biosecurity basics videos have been completed.

The video material is contained on the QSIA and Millstream Productions websites:

<https://qsia.com.au/biosecurity/> and <https://www.millstreamproductions.com.au> with the Biosecurity Basics clip being distributed by Biosecurity Queensland with an extensive promotion campaign that drives all clip viewers to the QSIA website (biosecurity section). A number of other interstate and national Government agencies have shown interest in rebranding the Biosecurity Basics clip.

5. Discussion

The project has delivered on the creation of industry-focussed, information and educational video material relating to the importance of biosecurity. The incursion of WSSV in the Moreton Bay region caught the Queensland community, industry, researchers and government by surprise.

The biosecurity response was initially focussed on the prawn farms that provided the first indication that the virus had made its way into the Moreton Bay region.

The approach adopted by this project was to coordinate the key stakeholders linked to the commercial seafood industry. This collaborative approach has set a foundation for future production of material related to biosecurity issues.

6. Research and Development Benefits

From a QSIA perspective the expected benefits can be grouped as follows:

- Knowledge – current understanding and basic knowledge of biosecurity from a wild and post-harvest perspective is limited. The production of videos will provide knowledge across three areas (importance of biosecurity at the wild harvest and post-harvest sectors and an overview of biosecurity terminology).
- Increased production of biosecurity material – The video material will augment biosecurity material on the QSIA website: <https://qsia.com.au/biosecurity/>
- Increased Awareness – Increased awareness and education of commercial fishers allows industry to respond quickly to potential biosecurity threats.
- Passive Surveillance – Through increased biosecurity awareness of commercial fishers, will be enhanced passive surveillance capability from commercial fishing industries. Australia's biosecurity systems rely heavily on passive surveillance for early detection of pathogens and health issues particularly in wild stocks.

7. Implications

Developing the material for this project has highlighted the need for greater industry preparedness for potential pathogen incursions into the Australian marine environment.

The inspiration for the video material had its origin in the WSSV outbreak in the Logan River and subsequent detections of the virus in northern Moreton Bay. Industry was unprepared to respond to the disease incursion which reflected the unique nature of the incident that took government and industry by surprise.

Biosecurity and fisheries managers need to be across their obligations under the various State and Territory biosecurity legislative instruments. More importantly, the need for government, researchers and industry working together underpins the overall response to future disease outbreaks.

8. Recommendations

The development of the video material compliments material already developed by the QSIA but is part of an ongoing education and information sharing process.

Further discussions with industry are needed to assess what, if any, additional materials are needed to help industry respond to biosecurity incidents versus improving industry understanding of why biosecurity is a critical issue.

9. Extension

QSIA has the capacity to extend the reach and potentially the impact of the videos developed for this project through social media platforms, podcasts and blogs. This reach can and will be augmented through the distribution of the material with assistance of Fisheries Queensland and other, State and Territory biosecurity agencies, see the extension and communications plan at Attachment 3.

9.1. Extension Part 1: Industry Contacts

The video materials were completed by Millstream productions in late January 2019. Through permission from the FRDC the video material was launched on Friday 1 February 2019. Under the plan, the target audience for the videos included:

- QSIA.
- QSMA.
- Moreton bay Seafood Industry Association (MBSIA).
- Gulf of Carpentaria Commercial Fisherman's Association (GoCCFA).
- State peak commercial fishing organisations (e.g. Seafood Industry Victoria).
- National bodies (e.g. Seafood Industry Australia (SIA), Australian Council of Prawn Fisheries (ACPF), Animal Health Australia).
- Biosecurity Queensland and State and Territory equivalents.
- Millstream Productions.

Each of these target audiences were contacted via email and asked to share the material amongst their colleagues.

9.2. Extension Part 2: Facebook

Two edited versions of the Biosecurity Basics video were created spanning 30 seconds, one focuses on the reporting process for the commercial fishing/post-harvest sector and the other on the reporting process for recreational fishers/general community.

Biosecurity Queensland then targeted each video directly to that market audience using Facebook advertising. Funds (\$10,000) were placed on the video to push them out to the target audience over a two-month period.

The 'learn more' function on the Facebook ads (videos) is directing the audience to the QSIA biosecurity webpage. So far, the videos have reached 124,972 people and 602 people have visited the webpage – these figures are expected to triple by 19 April when the ads finish.

The initial two Facebook advertisements can be sourced here: <https://fb.me/2hIKCOSrNRNmTeU> and <https://fb.me/bb37Sq40BkmaJ> with a series of others currently on standby <https://vimeo.com/album/5747201>

9.3. Queensland Seafood Magazine

The QSIA had received funding under the Stronger Biosecurity and Quarantine Initiative (SBQI) to which aims to enable the Australian Government to strengthen Australia's biosecurity preparedness and response capability for exotic pest and disease incursions.

The purpose of the grant provided to the QSIA was to increase the preparedness of Queensland's wild harvest seafood industry through the appointment of a Biosecurity and Industry Liaison Officer (BILO), development of an industry biosecurity plan and the development of an industry communication tool kit to educate the industry on biosecurity issues.

The project has almost been completed and included the production of a special edition of the QSIA's Queensland Seafood magazine. To improve the extension of both the Federal government project and the video production, a second special edition of the magazine was printed, see Attachment 4.

10. Project materials developed

This project has led to the production of three videos which have been embedded in the QSIA website under the biosecurity section of the site.

Video link: <https://qsia.com.au/biosecurity/>