

## **Submission – “Review of Final generic import risk analysis report for prawns and prawn products 2009” and Australia's new Imported conditions for breaded, battered and crumbed prawns imported for human consumption**

The Department of Agriculture and Fisheries (DAF) has reviewed documents relating to the “Final generic import risk analysis report for prawns and prawn products 2009” and Australia's prawn import conditions as well as New Imported conditions for breaded, battered and crumbed prawns imported for human consumption outlined in Biosecurity Advice 2018/10.

Queensland provides the following comments on the draft reviews.

### **Submission to the Prawn Import Risk Assessment**

In summary, Queensland has not made any comments on matters that relate to the information with respect to Commonwealth legislation and understands the Department of Agriculture and Water Resources will make the necessary changes. Queensland's comments primarily relate to White Spot Syndrome Virus (WSSV) learnings that are transferable to other prawn diseases listed and unknown.

Since 2017, Queensland has developed an indepth understanding of WSSV and the risks posed to Australia from this disease where:

1. ongoing research undertaken by DAF in Queensland as part of the White Spot Disease (WSD) Program has found:
  - a. there is a demonstrated high-risk pathway of WSSV from retail outlets to wild populations;
  - b. ongoing communication and community engagement attempts to date have not successfully changed community behaviours in a key target audience who are using imported prawns for human consumption as bait;
  - c. testing of imported product is inconsistent with OIE Aquatic Code and the current National Surveillance Program for WSSV being undertaken by all Australian jurisdictions;
2. in addition, there are a range of new and emerging diseases of serious concern in other prawn farming countries that cannot be detected in imported prawns. Treating this product to destroy the pathogen is the only way to mitigate this known risk.

Queensland is continuing to explore the genomics of the WSSV incursion in Queensland that is likely to provide valuable information for future consideration. Queensland believes that raw, untreated prawn products present an unacceptable risk to the economy and environment with the current testing regime. Queensland is seeking reconsideration of import assessments, requirements and systems for imported products to be cooked or irradiated to maintain an Acceptable Level of Protection (ALOP) to Australian prawn and broader crustacean industries.

Section	Issues	Evidentiary Information	Solutions, suggestions or amendments
5.2 Exposure Assessment	<p><b>Major Exposure Pathway for WSSV (imported retail prawns)</b></p> <p>The Impact Risk Analysis indicates that WSSV would migrate to Australia via the sea route and impact the cultured prawn industry here, given our proximity to Southeast Asia where the virus is endemic (Escobedo-Bonilla et al., 2008).</p> <p>Possible disease pathways by which WSSV might have entered Queensland were considered in the Senate Inquiry report, Biosecurity risks associated with the importation of seafood and seafood products (including uncooked prawns and uncooked prawn meat) into Australia (Senate Standing Committee on Rural and Regional Affairs and Transport, 2017) and also in the Inspector-General of Biosecurity's review report, Uncooked prawn imports: effectiveness of biosecurity controls (Scott-Orr, Jones &amp; Bhatia, 2017). The pathways considered included: hatchery broodstock; prawn feed or feed supplements; previous undetected infection in wild crustaceans; ballast water; contaminated equipment; illegal human activity such as deliberate sabotage or importation of aquaculture equipment; and imported retail prawns used as bait or berley.</p> <p>Based on available evidence, the last pathway, imported retail prawns used as bait or berley, was considered the most plausible. Given the number of potential entry pathways, the Inspector-General of Biosecurity's report also recommended that work be undertaken to review</p>	<p>Whilst Queensland accept that WSSV might migrate to Australia via the sea route, to date there has been no evidence of this occurring. Since 2005 all post larvae resulting from prawn broodstock sourced from the Joseph Bonaparte Gulf, adjacent to the Western Australia and Northern Territory borders, which includes the Timor Sea, have been tested for a variety of diseases including WSSV, circa 2006, with no positive detections. Further there has not been any submissions of prawns from prawn farms or the wild which have been detected with WSSV, until December 2016 in the Logan and Moreton Bay regions.</p> <p>Queensland does not support the premise of the IRA that supermarket prawns are unlikely to be used as bait. Following the WSSV detection in late 2016, Biosecurity Queensland has undertaken further research to determine the presence of WSSV in imported seafood products with a primary focus on prawns and or prawn products. Queensland found that that at least 58 percent of green product contained traces of WSSV. Queensland also found that close to 40 percent of cooked or processed prawn product contained traces of WSSV. Queensland is not aware of any research that has confirmed that the current methodology used for these products i.e. cooking or processing, denatures these WSSV infected products.</p> <p>Queensland has also undertaken extensive and comprehensive community engagement to manage the WSSV incident that has included face-to-face community engagement, social media, media releases, and physical signage. In 2017, Queensland commissioned Kantar Public to undertake a study into the potential use of supermarket prawns as bait. Kantar Public (2017) surveyed 1000 fishers and found that 23 percent used prawns as bait that was purchased from the supermarket. The</p>	<p>Queensland is seeking requirements for crumbed and marinated products be based on evidence. Until there is adequate evidence that consumers do not use the products as bait, they should not be permitted entry without adequate testing or treatment as per other uncooked prawn products.</p> <p>Queensland is seeking additional research to determine if WSSV is denatured through cooking, processing or marinating.</p> <p>Queensland can share the Kantar Public (2017) report with the Federal Government.</p>



the risk mitigation measures for all pathways, not just the most plausible pathway in the case of the south-east Queensland outbreak.

The use of crumbed or marinated products has not been specifically assessed; however the Queensland Government is planning to investigate this in further detail as part of community engagement activity in late 2018. It is likely that due to differences in price, crumbed and marinated products will be confirmed as being used as bait and will still be considered a high risk.

study confirmed that this behaviour is based on price and convenience and is difficult to influence. The survey also found that 26% of the respondents denied that there was a problem. Despite Queensland's comprehensive and targeted communications aimed at recreational fishers and the messaging of not using supermarket prawns for bait the most recent survey results remain a significant concern.

In 2018 an additional survey was conducted, asking if "in the last year have you used supermarket prawns for bait". The aim of this survey was to gauge the success of Queensland's bait campaign. 19% of respondents from the 768 fishers, stated they had used supermarket prawns as bait in the last 12 months and of those 46% were unaware of the origin of these prawns. Whilst there has been some small decrease in this behaviour the trend is still concerning and our attempts to change fishers behaviour appears to have been marginal.

**Reference:**

Kantar Public, 2017. White Spot Disease Market Segmentation Report. Prepared for Biosecurity Queensland, September 2017.

DAF Internal dataset

Senate Standing Committee on Rural and Regional Affairs and Transport, 2017

Scott-Orr H, Jones JB, Bhatia N (2017). Uncooked prawn imports: effectiveness of biosecurity controls. Australian Government Inspector-General of Biosecurity Review report No. 2017- 18/01

<p>15.1 Risk Management Options</p>	<p><b>Testing – Some diseases are too complex to detect and are poorly understood.</b></p> <p>Queensland believes that PCR is not detecting some diseases especially when there is complex or poorly understood aetiology.</p>	<p>Monodon Slow Growth Syndrome is an exotic disease that is listed as Prohibited Matter in the Queensland <i>Biosecurity Act 2014</i>. It has caused severe problems for farming black tiger prawns in Thailand, to the extent that farmers moved away from this species (Thitamadee et al., 2016). This disease has no case definition and is from an unknown cause. What is known is that a viral agent is involved (Laem-Singh virus) and the identified agent is 'filterable and infectious' (DOA, 2012). Monodon Slow Growth Syndrome is identified as one of the highest risks for prawn aquaculture in Queensland, and under the current proposed import regime there will be no protections against this agent.</p> <p>References: DoA, 2012. Aquatic Animal Diseases Significant to Australia: Identification Field Guide 4th Edition Australian Government Department of Agriculture, Fisheries and Forestry, 2012</p> <p>Thitamadee, S, Prachumwat, A., Srisala, J., Jaroenlak, P., Salachan, P.V., Sritunyalucksana, K., Flegel, T.W., Itsathitphaisarn, O., 2016. Review of current disease threats for cultivated penaeid shrimp in Asia. <i>Aquaculture</i>, 452, 69-87.</p>	<p>Queensland is seeking adequate mitigation measures for diseases such as Monodon Slow Growth Syndrome and other symptoms.</p> <p>To ensure that an Appropriate Level of Protection is maintained, Queensland is seeking amendments to the assessment system for newly described diseases and viruses to include criteria that consider the: development of a syndrome, development of consistent pathology and/or clinical symptoms, development of epidemiological features consistent with an infectious disorder, demonstration of transmissibility in challenge studies; and development of measurable production impacts.</p> <p>In the absence of a revised assessment and testing system, Queensland</p>
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			believes the only viable option to protect Australia's Aquaculture from Monodon Slow Growth Syndrome and similar diseases is to treat the product by cooking or irradiation.
15.1 Risk Management Options	<p><b>PCR is not able to keep pace</b></p> <p>A vast array of new and emerging diseases of prawns are being identified globally. According to Stentiford et al. (2012), since the inception of the Australian industry, production has been plagued by an increasingly cryptic array of pathogens despite efforts to create specific-pathogen- free (SPF) stocks and the application of improved farm management systems. As new disease threats emerge, it takes years to develop and validate tests and to determine if Australian species are susceptible. Furthermore, once this information becomes available delays would be apparent in import protocols being updated to further raise protections for this sector.</p> <p>Queensland considers a narrow focus on a small number of well-known pathogens continues to provide unacceptable risks to Australia. Aquaculture is still an emerging industry globally and in Australia. The future of farming prawns and other crustaceans will almost inevitably include species other than black tiger prawns (<i>P. monodon</i>). One of the key constraints to farming prawns is disease, and by knowingly introducing a wide range of exotic viruses, we are reducing the likelihood of</p>	<p>There are currently several diseases that are presenting ongoing challenges for diagnosis. Currently, testing capability is being developed for <i>Enterocytozoan hepatopenaei</i> (EHP), nominated by industry as the 2<sup>nd</sup> highest disease risk. Testing capability is still not available at jurisdictional level, even though the disease has been known since 2004 and characterised since 2009 (Thitamadee et al., 2016). Acute hepatopancreatic necrosis disease (AHPND) is seen by the industry as the next highest risk. Testing for AHPND is possible but unreliable since the toxin genes are often contained in plasmids, which can dissociate from bacterial 'hosts' when grown on standard laboratory culture plates. These examples are likely to be inactivated by freezing as far as we know, but there are also viral pathogens with similar potential to cause harm, that will not be killed by freezing.</p> <p>The rapid evolution of Yellow Head Virus (YHV) complex viruses continue to create challenges for diagnostic tests. Currently there is at least one new, highly virulent strain, YHV-8, emerging from China (NACA, 2017) and it is not known whether current PCR tests will detect it. Once new tests are developed there is an inevitable delay in import policies keeping pace. This continues to</p>	<p>Queensland is seeking acceptance from the Australian Government there are numerous undescribed disease risks that threaten the successful growth of Australian Aquaculture industries.</p> <p>Queensland believes that these risks can be managed through cooking or treating of imported prawns to destroy all of these pathogens.</p>

<p>a successful expansion of the aquaculture industry in Australia.</p>	<p>leave Australia exposed to the risk if this disease is not considered in future testing protocols.</p> <p>Covert Mortality Nodavirus (CMNV) emerged from China in 2009 where it caused major losses. This virus is known to infect and cause disease in Australian species including Kuruma prawns (<i>Marsupenaeus japonicas</i>), black tiger prawns (<i>Penaeus monodon</i>) and giant freshwater prawn (<i>Machrobrachium rosenbergii</i>) (Zhang et al., 2017). There is currently no test for this disease in Australia. The same applies to another serious disease, shrimp haemocyte iridescent virus (SHIV). SHIV caused massive mortalities in farmed <i>Litopenaeus vannamei</i> in 2014 and was only recently described by Qiu et al. (2017). The virus is known to infect a broad range of hosts including the giant freshwater prawn (<i>M. rosenbergii</i>), which is native to Australia. Based on this information there is a high likelihood that SHIV could cause economic and environmental harm if it was introduced into Australia.</p> <p>Infectious myonecrosis virus (IMNV) has been known since 2002 and has caused considerable losses in South America and SouthEast Asia (Prasad et al., 2017). It is exotic to Australia and is known to infect and cause disease in multiple Australian prawn species (Gudkovs et al., 2015; Tang et al., 2005). Even though this disease has caused more than \$1 billion of economic loss overseas, we have not tested for it, presumably due to uncertainty over its potential impact on Australian prawns.</p> <p><b>References</b></p> <p>Gudkovs, N., Slater, J., McColl, K., Handayani CR. and Crane, M., CSIRO Australian Animal Health Laboratory, 2015. Tactical Research Fund Aquatic Animal Health Subprogram: Determining the susceptibility of Australian species of prawns to infectious myonecrosis, Geelong.</p>	
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15.1 Risk Management Options - Testing	<p><b>Testing Regime</b></p> <p>Queensland has concerns around the testing regime for imported uncooked prawns.</p>	<p>Whilst the Queensland Government supports the positive steps taken by the Federal Government for improving the ALOP this regime is still of concern.</p>	<p>Queensland is seeking acceptance from the Australian Government that the testing regime for imported uncooked</p>



<p>Queensland is concerned that despite the exporting competent authority claiming that consignments being sent to Australia are free from WSSV and or YHV positive detections of WSSV are still being made in Australia. Although the at-border testing regime has detected some consignments, there is no doubt that other material which could also be positive is being released to the retail markets. This continues to present an unacceptable and ongoing risk.</p> <p>The current testing regime at the Australian border for imported uncooked prawns for each batch as cited on the Department of Agriculture and Water Resources Website <a href="http://www.agriculture.gov.au/biosecurity/risk-analysis/memos/ba2017-12#A1">http://www.agriculture.gov.au/biosecurity/risk-analysis/memos/ba2017-12#A1</a> includes:</p> <p>On arrival in Australia, each batch of uncooked prawns will be subject to seals intact inspection and testing for WSSV and YHV at an approved screening laboratory.</p> <p>The testing used in approved laboratories will be based on the polymerase chain reaction (PCR) tests in the current version of the OIE <i>Manual of Diagnostic Tests for Aquatic Animals</i> or equivalent, and a sampling regime that would provide 95% confidence of detecting the agent if present at 5% prevalence.</p> <p>The definition provided for “batch” is as follows:</p> <p>For the purposes of testing prawns for disease agents of biosecurity concern, a batch may be defined by one of the following (to be determined by the competent</p>	<p>The latest reports indicate that 410 consignments of prawns under the enhanced import conditions have been received. Of these, 384 consignments have tested negative for WSSV and YHV however, 8 consignments have tested positive for WSSV.</p> <p>When WSSV is detected, deterrents for the exporting country can include returning the exported product, cooking or destruction. The most likely option is perhaps for cooking as it would appear to be the most cost effective option.</p> <p>The current testing regime at the border involves sampling 65 prawns per batch and assumes that the diagnostic tests have 100% diagnostic sensitivity (DSe) and 100% diagnostic specificity (DSp) and sampling methods provide a truly random sample from each consignment. Queensland wishes to contest these assumptions based on science and application as follows.</p> <ul style="list-style-type: none"> <li>• <b>Diagnostic sensitivity:</b> Queensland’s evaluation of the current diagnostic test as recommended by the OIE (OIE 2018a) are significantly lower than 100%. Information collected on test performance during the establishment of Australia’s National Surveillance Program for WSSV has shown that when testing on a single sample the OIE Taqman qPCR had a mean sensitivity of 86.36% (82.06 – 89.94; 95% probability intervals) and the CSIRO Taqman qPCR had a mean sensitivity of 84.94% (79.87-89.20; 95% probability intervals). These are the same diagnostics tests used on imported products at our border.</li> <li>• <b>Random sampling:</b> Considering the supplied definition of a batch, perfect random sampling would be difficult if not impossible to achieve and subject to human error or</li> </ul>	<p>prawns is not supported scientifically and does not meet our ALOP, as consistent with the current National Surveillance Program for WSSV.</p> <p>Queensland is seeking a review of the testing approaches being deployed for imported prawns including those proposed approaches detailed in Biosecurity advice 2018/10 <i>New Imported conditions for breaded, battered and crumbed prawns imported for human consumption</i>.</p> <p>Queensland recommends harsher penalties for those countries whom have had positive detections of WSSV and or YHV detected at Australia’s’ border. Suspension for a pre-determined period of the ability to export prawn and or prawn products to</p>
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	<p>authority), but in any case, a batch cannot exceed 1 shipping container.</p> <ul style="list-style-type: none"> <li>• product from a single line in a single processing run</li> <li>• product harvested from a single aquaculture pond - (i.e. prawns harvested from separate ponds are considered separate populations for the purposes of defining a batch)</li> <li>• one species of prawn wild caught during one continuous fishing period;</li> </ul> <p>Each consignment (container) will be considered as one batch unless multiple batches are specified in the container. If a batch is shipped in two containers each container will be considered a single unrelated batch. In addition, each batch in a consignment must be labelled and clearly identifiable.</p>	<p>potential deliberate evasion as was identified during Operation Cattai (Scott-Orr et al. 2017).</p> <ul style="list-style-type: none"> <li>• <b>Testing regime to provide 95% confidence of detecting the agent if present at 5% prevalence:</b> The supplied definition of a batch clearly states that batches of imported prawn products can contain species of wild caught prawn. The stated 5% design prevalence used during at border testing is inconsistent with a recommendation of Chapter 1.4 of the OIE Aquatic Code (OIE 2018b) that a 2% design prevalence be used for surveillance of wild prawn populations. This sampling approach is also inconsistent with the current National Surveillance Program for WSSV being undertaken by all Australian jurisdictions. Furthermore no scientific evidence has been provided to suggest a higher design prevalence of 5% should be supported during at-border testing.</li> </ul> <p><b>References:</b>  OIE (2018a). Manual of Diagnostic Tests for Aquatic Animals 2018. Chapter 2.2.8. White Spot Disease.</p> <p>OIE (2018b). Aquatic Animal Health Code 2018. Chapter 1.4. Aquatic Animal Health Surveillance.</p> <p>Scott-Orr H, Jones JB, Bhatia N (2017). Uncooked prawn imports: effectiveness of biosecurity controls. Australian Government Inspector-General of Biosecurity Review report No. 2017- 18/01.</p>	<p>Australia should be considered as a deterrent.</p>
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15.1 Risk Management Testing	<p><b>New diagnostic information about WSSV</b></p> <p>The Department of Agriculture and Fisheries is continuing to explore the genomics of the WSSV incursion in Queensland.</p> <p>This research is likely to provide valuable information for the Import Risk Assessment and subsequent decision making.</p>	<p>This research is expected to be completed in the next 5-6 months.</p>	<p>Queensland seeks agreement from the Australian Government to consider the results of this genomic research prior to finalising the Import Risk Assessment and import conditions.</p>
15.1 Risk Management Options	<p><b>Inconsistent risk management of WSSV</b></p> <p>Queensland believes there are inconsistent risk management approaches being deployed between domestic and international trade.</p> <p>At the request of industry, federal and interstate jurisdictions Queensland has put in place legislative restrictions to contain and control the WSSV infection and prevent its spread to uninfected areas by restricting where some product can be moved to, used or sold, but allowing all activities within the area to continue.</p> <p>Queensland considers the proposed new import conditions outlined in Biosecurity Advice 2018/10 – <i>New import conditions for breaded, battered and crumbed prawns imported for human consumption</i> are less restrictive than those being applied domestically.</p>	<p><i>The Queensland Biosecurity Regulation 2016; Part 12 White spot biosecurity zone regulatory provisions.</i></p> <p>The Regulation prohibits the movement of all green carriers from within the defined biosecurity area.</p> <p><a href="https://www.legislation.qld.gov.au/view/html/inforce/current/sl-2016-0075#ch.5-pt.12">https://www.legislation.qld.gov.au/view/html/inforce/current/sl-2016-0075#ch.5-pt.12</a></p>	<p>Queensland seeks reconsideration of the <i>New import conditions for breaded, battered and crumbed prawns imported for human consumption</i> provided in Biosecurity Advice 2018/10 to provide at minimum equivalent protections to those identified in the Queensland Biosecurity Regulation 2016; Part 12 White spot biosecurity zone.</p>