



NATIONAL SEAFOOD INDUSTRY ALLIANCE INCORPORATED

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National Seafood Industry Alliance

Submission

Senate Rural and Regional Affairs and Transport References Committee

A submission to the Parliamentary Inquiry into the biosecurity risks associated with the importation of seafood and seafood products (including uncooked prawns and uncooked prawn meat) into Australia

For the attention of:

The Senate Rural and Regional Affairs and Transport References Committee

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Executive Summary

The National Seafood Industry Alliance Inc (NSIA) is a representative body that brings together the Commonwealth, National State and Territory peak industry bodies in the Australian seafood industry to provide national representation to the Australian Federal Government on issues of national importance.

Membership of the NSIA includes the following State based organisations:

- Commonwealth Fisheries Association (CFA).
- National Aquaculture Council (NAC).
- Northern Territory Seafood Industry Council (NTSC).
- NSW Seafood Industry Council (NSWSIC).
- Queensland Seafood Industry Association (QSIA).
- Seafood Industry Victoria (SIV).
- Tasmanian Seafood Industry Council (TSIC).
- Western Australian Fishing Industry Council (WAFIC).
- Wildcatch Fisheries South Australia (WFSA).

The NSIA does not oppose importation of seafood into Australia, and indeed we note the need for imports for providing seafood for all Australians. However, we also demand that the biosecurity risks involved with doing so are properly assessed and properly mitigated to protect Australia's seafood industries, jobs and the economies of regional Australia, and the marine environment from exotic diseases. The NSIA is therefore extremely concerned about the recent failures of border control and the incursion of White Spot Disease (WSD) into South East Queensland caused by the exotic pathogen White Spot Syndrome Virus (WSSV).

Since its detection in late November 2016, the introduction of this virus has resulted in complete shutdown of around 30% of Australia's Prawn farming production. It has also seen an immediate loss of the livelihoods of several commercial fishers operating in the Logan River area, but of most concern is the recent detection of WSSV in wild prawns in Deception Bay, around 70 km north of the Logan River.

The latter is of grave concern to NSIA as movement controls designed to prevent the rapid spread of the virus now affect virtually the entire commercial fishing industry in Moreton Bay, and it appears at first glance from Biosecurity Queensland testing results that the WSSV in Deception Bay *may*;

1. Be evidence of a separate incursion (given the apparent absence of the virus in the areas between there and the Logan River, including the Brisbane River); and
2. Suggest that continued efforts around eradication of the virus are increasingly important at this point in time.

Scientific reports describing the course of the outbreak on the affected prawn farms (Diggles 2017a) have indicated that the farms were probably exposed to the virus via their intake water supplies. Independent scientific investigations also found a massive failure of border quarantine (Future Fisheries Veterinary Services 2017) allowing large quantities of frozen, uncooked WSSV infected imported prawns to enter the retail chain, with evidence that some of these products are subsequently used as bait by recreational fishers, thus providing a direct pathway for introduction and establishment of the virus into the Australian environment (Diggles 2017a).

Given that Federal authorities knew about quarantine irregularities at the international border in March 2016, the emergency declaration of a ban on importing uncooked prawns 10 months later in early January 2017 shows they moved to reduce these risks well after the horse had bolted. Given the previous incident involving infection of Australian crustaceans by WSSV introduced via frozen imported prawns in Darwin in 2000, and repeated warnings of the high risks posed by this pathway both by industry and government (e.g. Queensland Government 2006), NSIA has serious concerns regarding fundamental flaws in the risk analysis, border quarantine and testing processes that have caused a catastrophic biosecurity failure which has placed us in this situation. Indeed, unless major changes happen, the only question appears to be which sector of the seafood industry will be affected next?

We explore these critically important issues in more detail in the relevant sections of this submission.

Johnathon Davey

Chair

National Seafood Industry Alliance

A. Management of the emergency response and associated measures implemented to control the outbreak of White Spot Syndrome Virus

The National Seafood Industry Alliance (NSIA) is aware from the Senate Estimates hearing of the Rural and Regional Affairs and Transport Legislation Committee on 28th February 2017 (Senate Estimates 2017) that the Federal Government was aware of biosecurity anomalies at the international border relating to imported prawns at least as far back as March 2016. This awareness initiated Operation Cattai to investigate quarantine breakdowns involving imported uncooked prawn commodities (Senate Estimates 2017). The DAWR disclosed in their submission to this inquiry that Phase 1 of Operation Cattai found 45 of 53 (85%) of samples of uncooked prawns at the retail level were positive for WSSV in May-June 2016 (DAWR 2017). The NSIA observes that the failure of Federal authorities to communicate the existence of Operation Cattai to state authorities and industry for around 10 months (including important information regarding the increased disease risks at the retail level), will have increased the likelihood of incursion of not only WSSV, but other diseases of prawns as well.

Independent testing has shown that the prevalence of WSSV in imported green prawns sampled from retail outlets near the Logan River and elsewhere around Australia in December/January 2016/17 was around 87% (Future Fisheries Veterinary Services 2017), similar to that found by DAWR 6 months earlier in May-June 2016 (DAWR 2017). Bearing this in mind, if the increased risks associated with such high prevalence of WSSV infected prawns at the retail counter had been communicated earlier, prawn farmers around the country would have had time to increase biosecurity at their farms, reducing risks of disease outbreaks.

Furthermore, State fisheries departments would have had an opportunity to work with retailers to implement or improve signage at the point of sale, and conduct education campaigns informing commercial fishers of biosecurity risks and telling recreational anglers not to use imported green prawns as bait or burley. With these risk mitigation measures in place, it is possible the whole incident could have been avoided (or the impacts significantly reduced) although the important questions relating to the high prevalence of exotic diseases in retail outlets would obviously remain, and urgently need to be addressed.

Knowledge of the disease situation at the international border and the retail counter would also have undoubtedly influenced management decisions made at the earliest stages of the incursion in the first prawn farm infected on the Logan River. Some of these management decisions may have had significant impacts on the ultimate outcomes and chances of eventual eradication success. For example, communication of the knowledge of high WSSV levels at retail outlets would have most likely enacted/prompted biosecurity divisions (State and Territory) to suspect exotic disease incursions were possible and to review their risk assessments.

Effective, early communication could have also increased the speed of obtaining diagnosis at the first infected farm and changed the Governments advice and approach to containment of diseases

on that farm, likely reducing the chances of it spreading back into the river in a more concentrated form and infecting other farms.

NSIA remain disappointed to read eyewitness observations that during the earliest stages of the outbreak on the affected prawn farms on the Logan River, that movement of members of the public (recreational fishers) was virtually unrestricted around the inlet canals of affected farms for at least one week after WSSV was known to be present, and authorities failed to erect signage advising no movements of crustaceans for more than 3 weeks. There was also evidence of double standards whereby commercial fishers were required to decontaminate boats and fishing gear prior to moving out of the control zone in the Logan River, while recreational anglers apparently were not subjected to similar arrangements or if they were, they were not adequately enforced. Finally, it appears that BQ staff were not given unrestricted access to place bird control officers on all affected farms - inability to do this may have resulted in spread of the virus to the last operational farm when hundreds of birds gained access to drain harvested WSSV positive ponds at an adjacent infected farm (Diggles 2017a).

At the early stages of the outbreak in mid December 2016, prawn farmers and the commercial fishing industry in the Logan River had received very little (if any) information from authorities and hence felt they were operating in an information vacuum (Diggles 2017a). Prompt advice to all farmers and fishers in the area about basic biosecurity precautions (e.g. potential risks of disease introduction from intake water, potential risk of spread of the virus via uncleaned fishing equipment) at the earliest stages may have reduced the risks of infection both on prawn farms and within the environment via movements of fishing equipment. Furthermore, a large amount of stress for prawn farmers at WSD affected farms arose due to the fact that many instructions to them were verbal and not backed up by written documentation. In fact, several farmers did not receive any written test results until half or most of their farm was chlorinated (Diggles 2017a).

It is important that relevant documentation is provided to farmers and fishers as promptly as possible and written (hard copy) situation updates are also provided on a regular, predictable basis. This is something that needs to be addressed by biosecurity offices across Australia, and improved mechanisms to communicate and consult with industry must be adopted immediately.

B. The effectiveness of biosecurity controls imposed on the importation of seafood and seafood products, including, but not limited to, uncooked prawns and prawn meat into Australia, including the import risk analysis process concluded in 2009 that led to these conditions being established

Given evidence of high rates of WSSV infected prawns being detected at retail counters since May/June 2016 (DAWR 2017) and an outbreak of exotic White Spot Disease in the Moreton Bay region, these biosecurity controls were clearly ineffective. There is also evidence of outdated risk analyses and unacceptable risk profiles for exotic diseases carried by other seafood commodities such as barramundi (Hernandez-Jover et al. 2017). NSIA are concerned that inadequate and outdated risk analyses combined with failures of biosecurity at the international border have left Australia's seafood industries and the marine environment exposed to a wide range of exotic diseases, and that the reason why we have not got some of these other diseases besides WSD appears to be pure luck.

Clearly, relying on luck is simply not good enough for Australia's seafood industries. Only a comprehensive review and full update of the import risk analysis (IRA) for prawns and other seafood products (e.g. Hernandez-Jover et al. 2017) and the resulting biosecurity protocols implemented at the international border is acceptable to NSIA. We would expect that this would include full engagement with industry during the review process, so that Australia's seafood industries, and food security for future generations are given the full consideration and attention the people of Australia demand.

Prior to November 2016, the only previous confirmed WSSV incursion into Australia was its detection in broodstock prawns and mud crabs fed frozen imported prawns at an aquaculture hatchery in Darwin Harbour in December 2000. In that case wild mud crabs and prawns adjacent to the hatchery outlet were also transiently infected with WSSV, but over time the virus apparently did not become established in Darwin Harbour. Why and how the Federal government apparently did not learn from this precedent is of great concern to NSIA.

Fast forward to 2016, while the original source of the WSSV in Moreton Bay may never be known with absolute 100% certainty, the apparent patchy distribution of WSSV in different areas of the bay could also be explained by the same pathway, i.e. separate introductions of the virus at multiple locations via use of imported green prawns as bait or burley.

This is because the virus survives freezing and the latest science shows there are sufficient quantities of virus in imported prawns to successfully infect Australian crustaceans if they are exposed to imported prawns, thus establishing infection (Durand et al. 2003, Bateman et al. 2012, Diggles 2017b). There also does not appear to be any scientific evidence that marinating and breadcrumbing inactivate diseases of concern or dissuade consumers from using prawn

products as bait or burley. Hence, "full processing" of green prawns as specified in the 2009 prawn import risk analysis (Biosecurity Australia 2009) is not enough to prevent establishment of infections in susceptible species (Diggles 2017b).

What is even worse is the description of marinating and bread crumbing as "processing steps" that negated the need for disease testing. This was simply misleading and heightened risks of disease introduction, instead of reducing them, by providing a loophole to avoid testing and allow entry of infected prawns into the retail sector.

The strong possibility that this disease incursion was caused by use of imported prawns as bait or burley signals an urgent need to revise the 2009 prawn IRA and reassess this and other potential pathways of aquatic animal disease introduction into Australia. The IRA has clearly failed and is out of date. The risk profiles for diversion of prawns and other imported seafood products to bait and burley have either changed or were not properly identified in the first place. Furthermore, the NSIA refutes claims by the Interim Inspector General of Biosecurity in 2010 that the risk of introduction and establishment of WSSV via use of infected imported seafood products as bait were "negligible" (Dunn 2010). The 2009 IRA did not conclude this and it is therefore worrisome that the Interim Inspector General of Biosecurity could misinterpret the science on such an important matter.

C. The adequacy of Commonwealth resourcing of biosecurity measures including Import Risk Assessments

Because of the Federal Government's decision to rely on testing of imported prawns to mitigate disease risks, this required significant resources and costs to enforce biosecurity testing and inspection at the international border and post-border. The investigations of Operation Cattai have demonstrated these testing processes can be easily corrupted and NSIA expects that any criminal activity or negligence in this matter from either importers or Government officials should be prosecuted to the full extent of the law. However, even if the testing process was not corrupted, in the real world, no matter how a testing program is designed and implemented, the chances of human error remain.

NSIA considers that, given the limited biosecurity resources available, requirements for effective testing at the border are likely to be incompatible with the high volumes of imported prawns that are now traded into Australia. You can have one, but not the other. Furthermore, history shows that we can expect new diseases to continue to emerge in prawn farms overseas on a regular basis.

When these new diseases emerge, there are no diagnostic tests available, sometimes for many years. So if (or more accurately, when) new diseases emerge, unless we are very lucky, they may become established in Australia before the IRA is updated and a reliable test becomes available. In either case, as trade volumes increase, propagule pressure increases and without increased funding for more rigorous testing procedures and more frequent reviews of IRAs, errors begin to be made and risks of incursions skyrocket, like we have seen in Australia recently with Operation Cattai.

It is worth noting that under the cost recovery policies usually forced by Government upon Australia's commercial fisheries, aquaculture industry and other maritime sectors, such arrangements would suggest that the user/disturbance pays mechanism is required for the cleanup. Potentially, seafood imports and importers should be cost recovered for more rigorous biosecurity arrangements, not taxpayers or local industry, including in the cleanup from a disaster. If seafood imports were levied to contribute towards emergency disease response arrangements, there would be a more level playing field for local product in competing with imported product.

Notwithstanding who pays for the testing, due to rapid rates of disease emergence, reliance on testing alone can lead to a situation where biosecurity breaches become inevitable, which is unacceptable to NSIA and Australia's fishing and aquaculture industries. However, there are other options. Cooking is a simple, cheap and effective sanitary process that inactivates most pathogens that threaten animal and human health and/or the environment, including WSSV and other known and unknown pathogens of prawns. There may be other sanitary treatment options that might provide equivalent risk reduction, such as irradiation, however the radiation dose rates required for WSSV and other prawn diseases have not been established, and the irradiation

processes are costly, time consuming, have limited throughput and may not be foolproof and/or subject to human error.

In comparison, cooking is not only "least risk", it is also least cost and can be implemented quickly and at high throughput. If all imported prawns are cooked, costs associated with compliance testing and inspection will be much reduced, as would the need for constant updating of import risk assessments. Selecting the right sanitary measures the first time around can thus avoid spiraling escalation of the ongoing costs involved with protection at the border and trying to control impacts post-border (including devastation of Australian seafood industries) when things go wrong.

D. The effectiveness of post-entry surveillance measures and "end use" import conditions for seafood products including, but not limited to, uncooked prawns and uncooked prawn meat into Australia, since the import conditions implemented in 2010 were put into place

These are simply not effective. Clearly the post-entry surveillance measures chosen by DAWR after the 2009 Prawn IRA have proven inadequate for preventing incursions of exotic diseases, as shown by Australia's first outbreak of WSD.

Despite biosecurity protocols requiring testing of 100% of shipments of frozen green prawns imported into Australia, independent testing shows that WSSV-infected frozen green prawns were transiting through border quarantine resulting in >80% of imported green prawns sold at the retail counter at supermarkets in Australia from at least May-June 2016 to November/December 2016 being WSSV positive (DAWR 2017, Future Fisheries Veterinary Services 2017). Furthermore, there was no testing required for other risky products like marinated prawns or soft shelled crabs, all of which have a risk of containing viable WSSV given the large host range of the virus, which affects all decapod crustaceans.

The NSIA also wishes to point out that Federal biosecurity authorities have not only underestimated risk and failed to deliver an effective testing program, they also have no control over end use once these risky products clear quarantine and/or are sold at the retail store. The NSIA notes that since the introduction of WSSV into Australia, much effort has been made to recall imported green prawns and educate recreational anglers not to use supermarket products as bait. However, it makes no sense to try to apply risk mitigation after the retail sale is made, and to rely on people being educated and "doing the right thing".

This is because after the point of sale the routes of entry to high risk pathways are too numerous and widely dispersed, making enforcement impossible, and the results from Operation Cattai show that not everyone wants to "do the right thing". In any supply chain the correct way to control risk is to apply risk mitigation at appropriate critical control points. Clearly the only proper way to control risk in the supply chain for imported seafood is either pre-border, or at the border. Once these products clear quarantine, and are sold across the retail counter, all control of the end use is lost.

Once WSSV was introduced into SE QLD, the fact that other States (WA and SA in particular), quickly moved to protect themselves by implementing controls on movements of uncooked crustaceans and other WSSV carriers from the area to try to prevent WSSV incursions into their own waters, highlights inconsistencies in what is considered an Appropriate Level of Protection (ALOP) by State Governments in Australia, compared to the Federal Governments previous (pre-interim closure) position on imported prawn products.

Having stricter controls requiring cooking of Australian prawns moved domestically from WSSV positive regions, yet still allowing uncooked imported prawns entry at the international border from WSSV positive regions overseas is an extraordinary situation that makes no sense. All that does is discriminate against Australian businesses while increasing the risk of spread of the disease to other areas of the country via imported products. Clearly the only safe solution within Australia's ALOP is to require all imported prawn products to be cooked as well to ensure a consistent ALOP and level playing field cross the board.

E. The impact of the outbreak on Australia's wild and farm prawn sectors

As was shown on the Logan River, the introduction of WSSV into Australia has had devastating effects on prawn farmers and commercial fishers. In the case of the prawn farmers, the eradication efforts resulted in complete shutdown of all farms in the affected area, and upwards of \$40 million dollars of losses (APFA 2017) and massive uncertainty regarding their future prospects. In other areas of the world where WSSV has been introduced, aquaculture industries based on prawns and other crustaceans (e.g. crayfish) have suffered tens of billions of dollars of production and economic losses.

Production in many WSD affected countries overseas eventually recovered, however much of the recovery was due to switching to the faster growing *Penaeus vannamei*, a species which is exotic to Australia and hence this recovery option is not available to the Australian prawn aquaculture industry.

Under Australian economic conditions, the costs of farming in the presence of the virus will impart additional production costs that would greatly reduce industry profitability to marginal levels, unless the government assists with readjustment packages to allow the farms to improve biosecurity at all levels. Without government assistance, the risk of disease outbreaks and lost profitability will discourage investment in prawn farming in Australia, posing a risk to Australia's future food security. Because of this, the impacts of introduction of WSD or other exotic diseases on the prawn aquaculture industry in Australia are likely to be catastrophic.

The effects of the virus on wild crustaceans are less certain, but the impacts of WSD on the wild catch commercial fisheries in SE QLD have been all too obvious. The potential impacts on wild fisheries can be placed into two categories, biological and economic. At the biological level, the presence of the virus may not be benign. Indeed, white spot can kill prawns during periods of environmental stress, suggesting that populations of wild crustaceans adversely affected by environmental stressors (e.g. floods or other adverse environmental conditions, rapid drops in water temperature or exposure to pollutants such as pesticides and herbicides) may experience reduced resilience and mortalities that go undetected.

The biological effects of this disease in wild populations will obviously vary greatly due to factors such as environmental characteristics, host susceptibility and host densities. Because of this, due to our unique environment, isolated fauna and effective environmental and fisheries management arrangements that tend to keep host population levels relatively high, it is possible that impacts of WSD introduction into Australia could be more severe than previously observed overseas. Any adverse effects could result in ecological harm to aquatic environments, potentially resulting in significant cultural and socio-economic harm to regional communities in Australia and elsewhere in the country.

At the economic level, the impacts of white spot on commercial fishers are just beginning to be felt. As WSSV is a listed disease agent notifiable to the OIE and NACA, there are significant trade implications following its introduction into Australia. Indeed, as shown in the Logan River and Moreton Bay, establishment of WSSV in a region of Australia necessitates intervention by government authorities and disruption to normal trade in crustacean commodities by commercial fisheries to try to prevent rapid spread of the disease into uninfected areas (DAF QLD 2017). As shown in the Logan River, if the disease spreads to areas where bait prawns are commercially gathered, movements of uncooked prawns are no longer permissible, disrupting not only commercial fishers but recreational fishers as well due to loss of bait supplies.

What has not been fully appreciated by many outside the industry as this catastrophe has unfolded, is that under these circumstances commercial fishers can be even more heavily impacted than aquaculturists. This is because while aquaculturists can (given enough financial investment) revise their farms and improve biosecurity to try to prevent the virus from entering the farm, commercial fishers relying on wild stocks cannot do this.

Although the virus may not kill their wild catch outright, because of the risk of spreading the infection commercial fishers may not longer be able to sell their products (live or fresh uncooked prawns, crabs, lobsters, crayfish) into their usual markets, effectively a situation commercially equivalent to having all of the animals dying from the virus anyway, as they are no longer saleable in the most profitable format. The likely impacts of introduction of WSD on the commercial crustacean fisheries in Australia are also, therefore, considered to be catastrophic.

NSIA is concerned that failure to provide adequate biosecurity at the border may be spooking investors in future commercial fishing and prawn farming ventures, and thus threatening Australia's future food security and reducing economic opportunities Australia wide. The findings of Operation Cattai demonstrate that some people are very willing to deliberately break the law, hence the risk of industrial sabotage must also be considered as real, providing yet another reason why strong border controls are necessary.

NSIA also raises the risk posed to our Australian commercial fisheries and marine resources from the Aquarium trade. The import of live fish and crustaceans is of great concern due to the high biosecurity risk and known pathways for ornamental fishes to enter the environment (Corfield et al. 2007). Industry are particularly concerned about the very high risk of virus, pests and diseases entering our country through the on-line trade of ornamental species, which is often untraceable due to the use of the postal system avoiding the rigorous inspection requirements imposed on licenced importers.

F. The economic impact on Australian wholesalers and retailers

If importation of uncooked green prawns and other crustacean products was prohibited based on these disease risks, wholesalers and retailers could still import and sell cooked prawns and crustaceans to satisfy market demand without endangering Australia's environment and primary industries and without causing seafood shortages or increased costs to consumers.

Indeed, the cooking option in particular is not only "least risk", cost-wise it is also potentially "least cost" as it would greatly reduce processing complexity and hence costs pre-border (prawns could be imported essentially unprocessed provided they were cooked prior to entry), and this would also reduce costs associated with disease testing post-border. If these cost reductions are allowed to flow onto the consumer, they could potentially reduce retail costs for imported prawns and other crustacean commodities. Of course, at the retail level signage indicating country of origin as well as labeling informing customers not to use imported seafood products as bait or burley should also be mandatory.

G. Domestic and foreign trade implications for Australian industries resulting from the suspension of importation of seafood and seafood products, including, but not limited to, uncooked prawns and uncooked prawn meat in Australia

NSIA notes that there have already been calls by other trading nations for seafood exporters in Australia to provide WSSV-free certification of crustacean products prior to export. This represents another layer of additional costs that will burden our seafood export industries. These costs need to be added to the extra costs and lost profits now being experienced by commercial fishers in Moreton Bay who can no longer access lucrative live trade markets for crabs in places like Sydney and Melbourne. This along with other threats of borders closing due to Australia's import restrictions has also shocked and threatened a number of significant Australia export industries, and must not be taken lightly.

NSIA notes that Australia's crustacean fisheries have a landed value of over \$1 billion to the national economy and have been placed at risk by the introduction of WSSV. These important fisheries are respectively valued at prawns (\$272 million), Rock Lobster (\$668 million), Crabs (\$55 million) and other crustaceans (\$6 million). These industries deserve to be protected from product imported through Australia's borders. We also note the reliance of these fisheries on export channels remaining open, any move that jeopardises the international trade of these products could be catastrophic.

For example, the WA Rock Lobster industry is an iconic, world-class fishery that is based on the spiny lobster, which are primarily sold as live product into China and within the domestic market. It is Western Australia's most valuable single species wild catch fishery, with an estimated beach price value of ~\$380 million in 2014/15. The potential risk to this industry from a biosecurity breach such as WSSV would be devastating, and any restrictions from export trading partners would be disastrous. As it would be for any of Australia's Rock Lobster fisheries.

Due to the need for local aquaculturists and commercial fishers to cook crustacean products originating from Moreton Bay before moving them into domestic markets outside the current closure area, is clear that the fishing and aquaculture industries of Australia are not operating in a level playing field, especially compared to non-seafood industries like beef and pork.

This playing field needs to be leveled out by requiring similar rules for importers as well as local suppliers, i.e. in this case, a requirement for cooking of all imported crustacean products (see below).

NSIA is not opposed to the export and re-importation of Australian green product to other countries given the vast majority of Australian prawn stocks are white spot free. This is in stark contrast to the countries importing prawns into the country. Australian prawn exporters focused on re-importation will need to ensure there are strong traceability safeguards in place to stop

substitution and cross-contamination and disease testing will need to be implemented upon reentry to oversee the integrity of the process.

H. Matters to be satisfied in the management of biosecurity risk before imports of seafood and seafood products, including, but not limited to, uncooked prawns and uncooked prawn meat into Australia could recommence

For Australian seafood industries to survive there is a dire need for more effective border control, including strong enforcement and severe penalties for deterrence of illegal behaviour by importers. The full biosecurity risk profiles for seafood commodities will only become clear once the relevant risk analyses have been fully reviewed and updated to reflect the current situation. NSIA expects the seafood industry to be invited to be fully engaged in the IRA consultative process when this happens. Until such time as the prawn IRA is fully reviewed and updated, Australia must uphold the current suspension of imports of uncooked prawns. Indeed, the risks posed by use of other imported seafood products (crabs, lobsters, fish and molluscs) will also need to be reviewed to assess whether the risk profile for these other seafood commodities was also underestimated, or has changed (e.g. Hernandez-Jover et al. 2017). If nothing changes, other seafood industries fear there is a real potential for more exotic aquatic disease incursions and that they will be next.

Education of recreational anglers has been considered to be one way of potentially mitigating the risk of introduction of diseases such as WSSV via the bait and burley pathway. However, the NSIA believes that it is impossible to properly educate recreational fishers unless the educational message is followed up with strong enforcement.

Even if this was to happen, further risk reduction steps will need to be taken before the risks posed by imported seafood products are reduced to within an ALOP consistent with the sanitary risk reduction methods employed by Australia for non-seafood products, for example pork. Indeed, it is notable that compulsory cooking is required for pork products imported into Australia from countries with foot and mouth disease and several other important diseases of pigs (see Commonwealth of Australia 2004a, b). White spot disease is the aquatic equivalent of foot and mouth, so it is fair to ask why our seafood industries are being treated differently to other primary industries when it comes to exposing us to exotic disease risks?

NSIA insists this must change. Our seafood industries need to operate on a level playing field. In the case of WSSV in imported prawns, replacement of uncooked frozen prawn products with cooked products is likely to be the only way to level the playing field and reduce risks to within the ALOP enjoyed by other non-seafood industries. Sanitary conditions allowing entry of only cooked prawns (processed or whole unprocessed) would also be consistent with domestic biosecurity arrangements currently implemented for crustacean products originating from Moreton Bay. A level playing field for all.

NSIA notes there may be other sanitary treatment options that could theoretically provide equivalent risk reduction to cooking, such as irradiation. However, the radiation dose rates required to inactivate WSSV and other prawn diseases have not been established, and this

research would need to be carried out at industrial scales in order to ensure the practical effectiveness of irradiation in the real world. Furthermore, irradiation processes are costly, time consuming, have limited throughput, and there would need to be confidence that radiation processes or certification processes are made foolproof so that they cannot be corrupted or subjected to human error, like we have seen with the PCR testing in Operation Cattai.

The Federal government has a long way to go to regain the trust of the Australian seafood industry on the issue of biosecurity. NSIA can only hope the Government learns from its mistakes and that, as a result of this catastrophic failure of its duty of care to the seafood industry and all Australians, biosecurity at the international border improves in the future.

Case Study – Australian Barramundi

Australia is gifted in being an island continent without many of the pests and diseases evident overseas. The aim therefore of the Australian Government biosecurity program must be to provide strong border biosecurity to maintain the Australian environment, lifestyle, industry and economy.

Aquatic biosecurity breaches not only impact farm production, but also jeopardise commercial wild harvest, recreational fishing, Indigenous people's access to the resource for their cultural needs, the food service sector, and consumers' ability to source Australian seafood, along with devastating effects on the general marine environment, ecology and biodiversity.

The iconic Australian Barramundi is critically important to a number of key stakeholder groups and the broader ecosystem. It provides many economic and social values to Australia, for example:

- Farm gate values of commercial wild harvest barramundi is approximately \$12 million/year, depending on seasonality.
- Current barramundi aquaculture production is 6,000t, valued at \$60 million, with production scheduled to reach 10,000t by 2018, valued at \$100 million, and with Industry programs in place to produce 25,000t/year by 2025, valued at \$250 million.
- Recreational 'values' are unknown specifically for Barramundi but total national recreational 'value' is estimated at \$2.6 billion/year, with over 1.5 million recreational fishers in WA, NT and Qld alone. Each of the northern states and the NT have identified barramundi as a key recreational species and have developed recreational only areas as part of a reallocation of access.
- Indigenous people's values cannot be readily assigned a dollar value, but barramundi is culturally of major significance. It addresses food security issues across all northern Australia and defines some people and groups' identity.

- The food service sector relies heavily on promoting barramundi on their menus. The current aquaculture production is equivalent to around 12 million meals/year, and by 2025 equivalent to 50 million meals (conservatively valued at \$1.5 Billion).
- Barramundi is a popular seafood choice. The food service sector relies heavily on the promotion of barramundi.

Given the critical importance of these species in commercial and socio-cultural contexts, the incursion of an exotic disease in Australian barramundi as a result of barramundi importation from disease high-risk countries is of serious concern.

The ABFA have many times raised the threat of allowing high-risk seafood imports into Australia that can end up (directly or indirectly, e.g. bait/berley, waste product, waste water) entering our aquatic environments. As the current Import Risk Assessment (IRA) is inadequate and based on a 1999 generic 'white fish' assessment, the ABFA commissioned independent research by the Charles Sturt University (CSU) to assess the possible risk to barramundi from imported diseased fish.

CSU found that there is a risk, and importantly, that such risk should be addressed before diseases such as Scale Drop Syndrome and Pot Belly Disease, which are endemic in countries sending fish to Australia, becomes established in the Australian environment. The recommendations are clear; there is no specific data on imported barramundi products coming into Australia. The knowledge of the aetiology and epidemiology of new and developing diseases is unknown but Government, the risk of disease transmission posed by fish waste used as bait is real.

The current IRA is generic and should be updated in line with potential emerging risks and changing international trade. Based on the lack of scientific information and the uncertainties around the importation of Barramundi products, the use of the precautionary principle in decision making should be invoked, so there is a need to take action to mitigate the risk in relation to products imported.

The Committee should note these findings and as a matter of urgency, immediately recommend for adoption:

- Enhanced general pre-border biosecurity controls be put in place on all uncooked seafood coming into Australia from countries not proven to be disease free and that could therefore introduce exotic pests or diseases.
- Implementation of measures that prohibit importing into Australia of all uncooked barramundi, particularly any product that is subject to further processing, i.e. skinning, filleting etc as there is no bacterial or viral diseases kill step on the importation process.
- The need to be able to track entry of at risk species by ensuring that the international Harmonized Commodity Description and Coding System (HS) is extended, to ensure that

key seafood species, such as barramundi, can be the subject of their own dedicated IRA and are adequately reported against for risk analysis and tracking purposes.

- Ensuring that all seafood IRA are precautionary in nature, up to date, reviewed regularly and fit for purpose.

Many overseas' operations highly vaccinate and medicate their farms so that they can continue to operate, but it must be remembered that you can't vaccinate the wild population for diseases. Australia is privileged to be free of many of the aquatic diseases prevalent overseas, so Australia's biosecurity measures must focus on prevention and exclusion so the privilege that we have been blessed with isn't lost for all future generations.

Recommendations

1. Import Risk Assessments and Further Research

Import Risk Assessments must be updated urgently, in line with potential emerging risks and changing international trade, ensuring industry inclusion in the review process. Industry recommends that the use of the precautionary principle in decision making must be invoked, so there is a need to take action to mitigate the risk in relation to products imported.

NSIA further recommends that due consideration be given to all other sanitary treatment options that could theoretically provide equivalent risk reduction to cooking, such as irradiation.

2. Bait Markets

Commercial and recreational fishers should be encouraged and supported to use local bait, and measures must be implemented to mitigate the risk posed to biosecurity from using imported seafood as bait or burley that is being sold for human consumption.

3. Re-importation of Wild Catch Australian Prawns Processed Offshore

NSIA supports the continuation of prawns being exported for processing and then re-imported to Australia, but recommend that the government will need to ensure there are strong traceability safeguards in place to stop substitution and cross-contamination. We recommend that the Government and industry ensure there are strong traceability safeguards in place to stop substitution and cross-contamination and disease testing will need to be implemented upon reentry to oversee the integrity of the process. We would expect this to incorporate some form of disease testing upon re-entry to oversee the integrity of the process.

4. Aquarium Trade

NSIA recommends the Federal Government to review the import risk assessment for the Aquarium import sector, noting that industry do not consider this a "low risk vectors". We recommend a no tolerance approach for people found to be purposefully breaking the law, and that there is a need to review the list of species allowed to be imported. Further NSIA recommends a review of the import avenues for aquarium species, noting that it is not acceptable to continue the level of imports that are coming in via standard postal mechanisms.

5. Structural Adjustment

NSIA recommends that the Federal Government fund structural adjustment packages as needed to provide assistance to Australian fishing and aquaculture industries in the event of emergencies, allowing them to move forward into the future. Most notable would be the provision of urgent assistance to impacted industries following the WSSV outbreak and should WSD become endemic.

6. Labelling

NSIA recommends that the implementation of accurate and visible country of origin labelling across the entire seafood supply chain is critical to engaging and educating consumers and recreational fishers, including the dangers of using seafood for human consumption as bait or burley.

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