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Collation of white spot syndrome virus testing data from wild-caught re-imported prawns

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Introduction

White Spot Disease (WSD) was observed on an Australian prawn farm on 22nd November 2016, and officially diagnosed for the first time on 1 December 2016 (Stephens, 2017[1]). During December and January, the disease spread through a number of prawn farms along the Logan River, Queensland. This detection had a wide range of implications affecting aquaculture, wild harvest and recreational sectors, importation of raw prawns and the bait trade. There is potential for long-term effect from a loss of confidence of consumers of Australian seafood, a lack of confidence in investment in the industry, and expensive capital improvements to enhance biosecurity of all Australian prawn farms (Stephens, 2017[1]).

Wild caught prawns that are re-imported into Australia are required to be tested for white spot syndrome virus (WSSV), the virus that causes WSD. Examination of these data could reveal if any positive test results have been recorded to date.

Methods

Advanced Analytical Australia Pty Ltd (AAA) undertakes routine testing for the largest re-importers of wild-caught prawns in Australia. Raw WSSV testing results since 1 January 2012 were requested from AAA, and consent for release of the data was provided by three prawn companies. AAA extracted the data from the Laboratory Information Management System (LIMS) on 27 April 2017, and provided it on the same day. Results of yellow head virus (YHV) testing were also provided and are presented here.

Data were checked for obvious errors, resulting in the change of the year of testing of one batch of WSSV test results and one batch of YHV test results from the obviously erroneous 2105 to 2015 (the correct year was obvious given the date of other batches from the same consignment). Data were pooled across companies. Each company was contacted to request the original source of wild caught prawns. The fisheries from which prawns were caught were identified for two of the companies (either the Northern Prawn Fishery (NPF), or the Spencer Gulf Prawn Fishery (SGPF)), however the third could not distinguish between testing results of re-imported prawns from the NPF and from wild caught prawns caught either in the East Coast Otter Trawl Fishery or overseas. That company did confirm however that the majority of re-imported prawns were caught in the NPF (industry contact, pers. comm.).

The numbers of samples from each fishery are shown in Figure 1, noting that a small number of samples included in the NPF data were wild caught prawns from east coast Queensland and wild caught prawns from overseas fisheries. All data that were provided are presented, aggregated by fishery and either by month (Figure 2–Figure 5) or year (Table 1 and Table 2). "Number of samples" refers to the number of individual test results, which in the data provided were grouped into what I have called "Batches" of thirteen samples.

Results

There were no positive WSSV or YHV test results in the data provided by Advanced Analytical Australia Pty Ltd, which represents testing of wild caught prawns that were re-imported into Australia by three different companies (Figure 2–Figure 5 and Table 1 and Table 2).

[1] Stephens, L. Seafood CRC, 2017, A Plan for the Prawn Farming Industry's Initial Response to the White Spot Disease Incident in Summer 2016-17. Canberra 2017

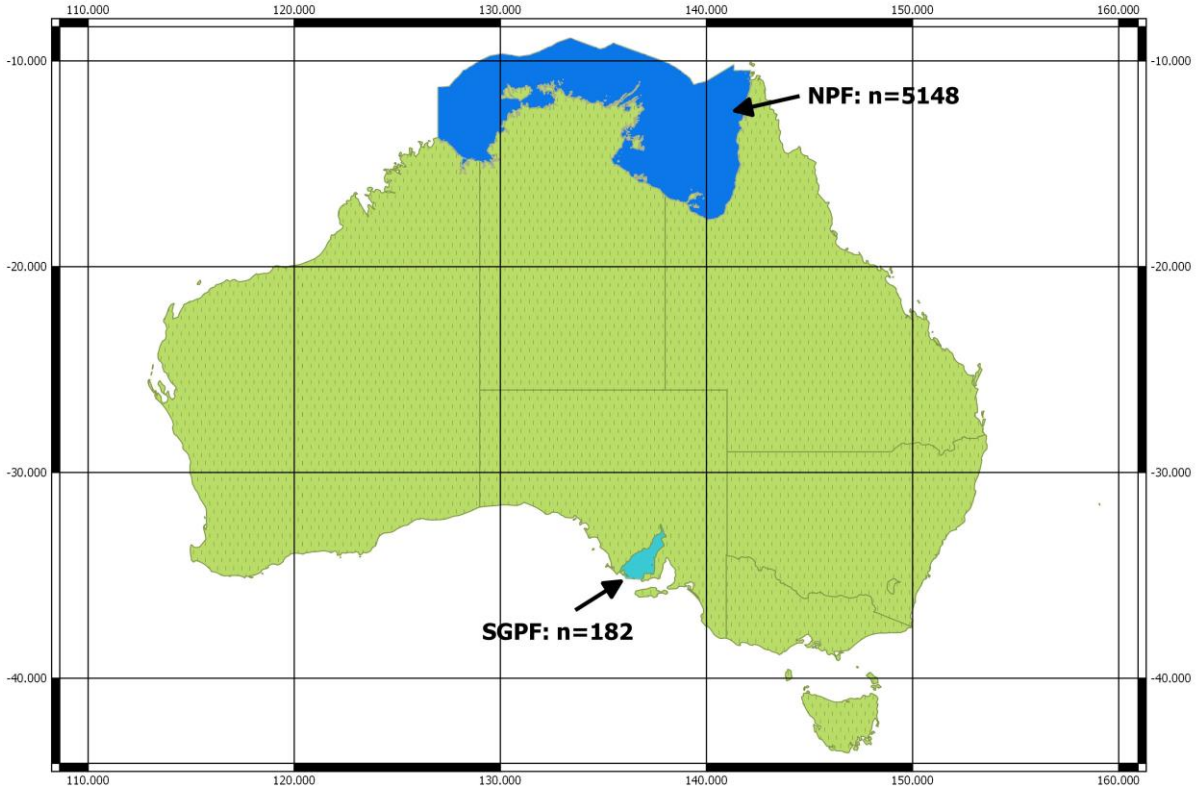

Figure 1. Number of samples tested for WSSV and YHV from the NPF and SGPF since January 2012. Note: (1) there were no positive results in the data provided; (2) a small number of samples included in the NPF data were from wild caught prawns from east coast Queensland and wild caught prawns from overseas fisheries, however all tests results were negative.

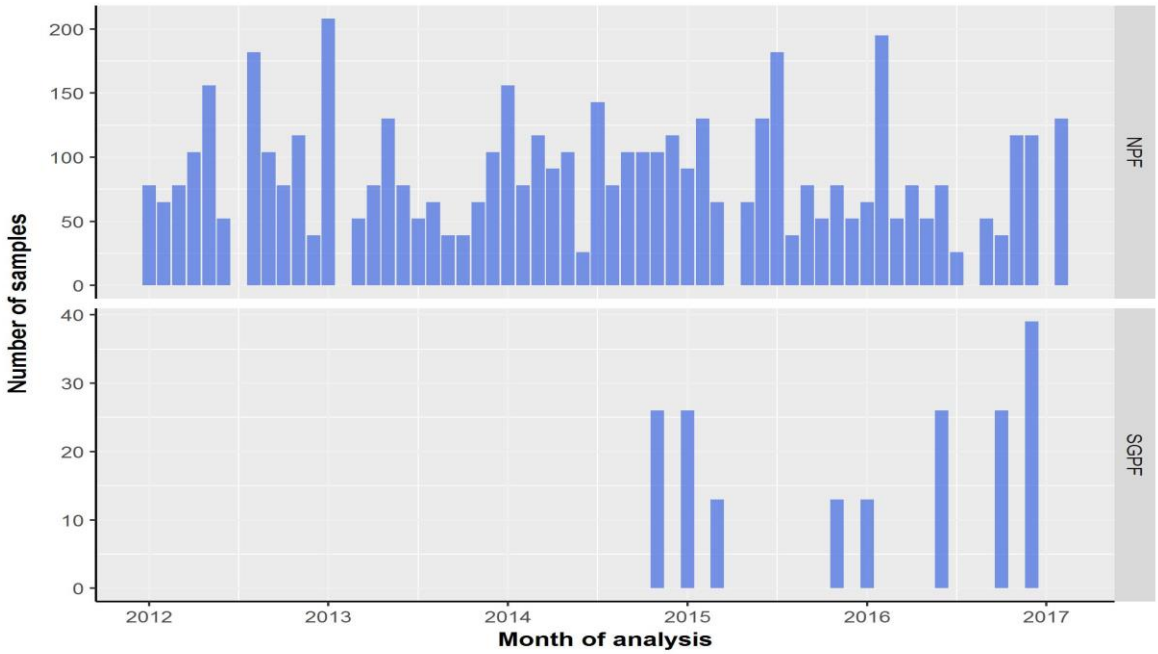

Figure 2. Number of re-imported wild catch prawn samples tested, and number of negative result for WSSV by month since January 2012. Note: (1) there were no positive results in the data provided; (2) a small number of samples included in the NPF data were from wild caught prawns from east coast Queensland and wild caught prawns from overseas fisheries, however all tests results were negative.

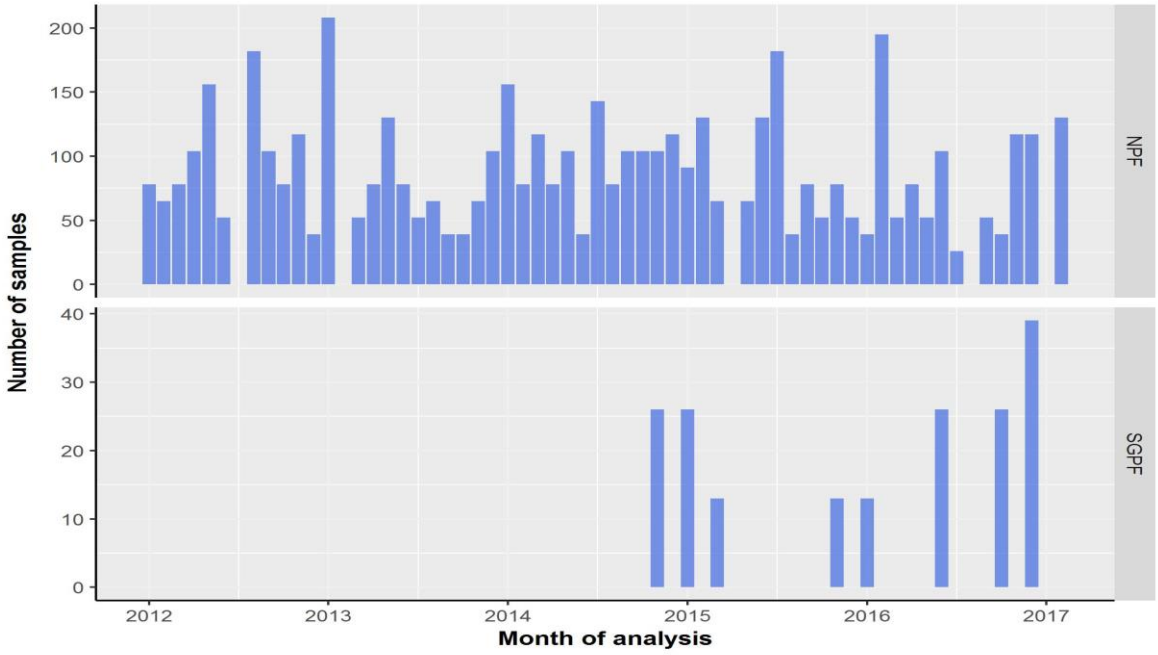

Figure 3. Number of re-imported wild catch prawn samples tested, and number of negative result for YHV by month since January 2012. Note: (1) there were no positive results in the data provided; (2) a small number of samples included in the NPF data were from wild caught prawns from east coast Queensland and wild caught prawns from overseas fisheries, however all tests results were negative.

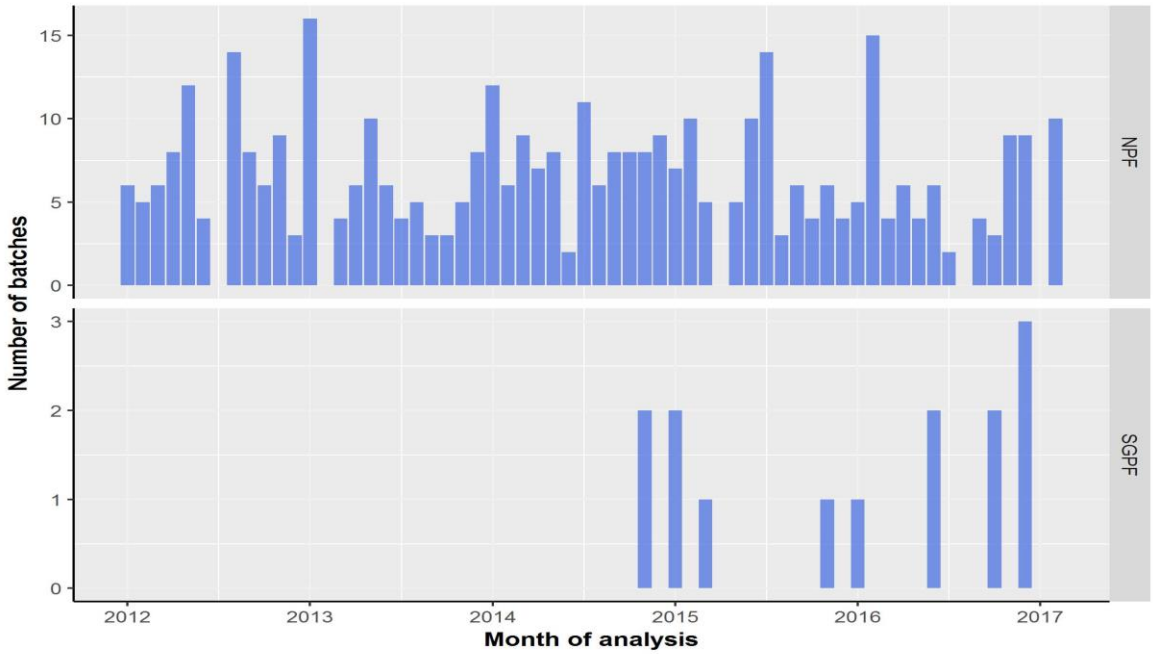

Figure 4. Number batches of re-imported wild catch prawn samples tested, and number of batches that returned a negative result for WSSV by month since January 2012. Note: (1) there were no positive results in the data provided; (2) a small number of samples included in the NPF data were from wild caught prawns from east coast Queensland and wild caught prawns from overseas fisheries, however all tests results were negative.

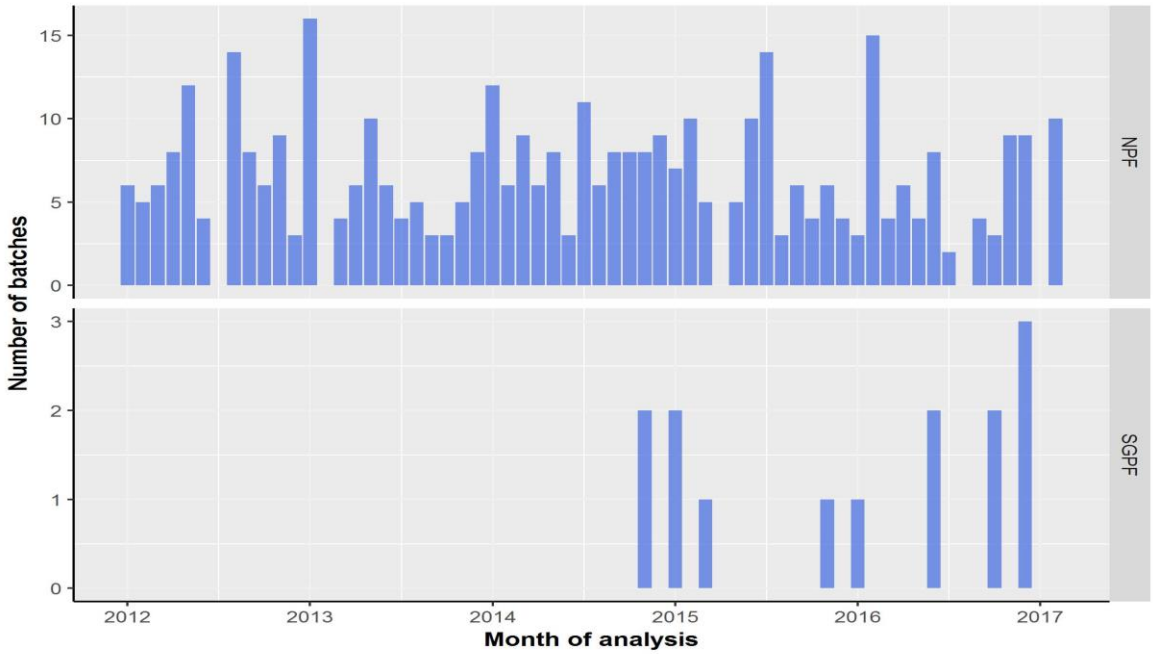

Figure 5. Number batches of re-imported wild catch prawn samples tested, and number of batches that returned a negative result for YHV by month since January 2012. Note: (1) there were no positive results in the data provided; (2) a small number of samples included in the NPF data were from wild caught prawns from east coast Queensland and wild caught prawns from overseas fisheries, however all tests results were negative.

Table 1. Results of samples tested for WSSV and YHV in re-imported wild catch prawns from the NPF and SGPF since January 2012. Note: (1) there were no positive results in the data provided; (2) a small number of samples included in the NPF data were from wild caught prawns from east coast Queensland and wild caught prawns from overseas fisheries, however all tests results were negative.

Fishery	NPF				SGPF			
Test	WSSV		YHV		WSSV		YHV	
Result	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive
2012	1053	0	1053	0				
2013	910	0	910	0				
2014	1222	0	1222	0	26	0	26	0
2015	962	0	962	0	52	0	52	0
2016	871	0	871	0	104	0	104	0
2017	130	0	130	0				
Total	**5148**	**0**	**5148**	**0**	**182**	**0**	**182**	**0**

Table 2. Number of re-imported prawns batches that tested negative to WSSV and YHV from the NPF and SGPF since January 2012. Note: (1) there were no positive results in the data provided; (2) a small number of samples included in the NPF data were from wild caught prawns from east coast Queensland and wild caught prawns from overseas fisheries, however all tests results were negative.

Fishery	NPF				SGPF			
Test	WSSV		YHV		WSSV		YHV	
Result	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive
2012	81	0	81	0				
2013	70	0	70	0				
2014	94	0	94	0	2	0	2	0
2015	74	0	74	0	4	0	4	0
2016	67	0	67	0	8	0	8	0
2017	10	0	10	0				
Total	**396**	**0**	**396**	**0**	**14**	**0**	**14**	**0**