

Senate Rural and Regional Affairs and Transport Legislation Committee

**Questions on Notice – Friday, 08 February 2013
Canberra, ACT**

Inquiry into Biosecurity Bill 2012 and the Inspector-General of Biosecurity Bill 2012

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**SENATE RURAL AND REGIONAL AFFAIRS AND TRANSPORT
LEGISLATION COMMITTEE**

**Inquiry into the Biosecurity Bill 2012 and the Inspector-General of
Biosecurity Bill 2012**

Public Hearing Friday, 08 February 2013

**Questions Taken on Notice - Department of Agriculture, Fisheries and
Forestry**

1. HANSARD, PG 3-4

ACTING CHAIR: Obviously in an era of modern transport, communications, multinationals—with all sorts of exotic ways of cheating and thieving and debauchery—we have to keep our laws upgraded. Ms Mellor, could you take on notice how the new bills deals with what you consider to be deficiencies in the old bill?

Ms Mellor: I am not sure I understand the question. Certainly there are improvements to our powers in the new bill. I covered some of them in the opening statement.

ACTING CHAIR: I did not particularly want to be this to be specific. One of the famous things that sticks in my mind—and the mind of this committee—is how under the present arrangements you get 34 containers of dirt from China and get it over our Customs and biosecurity people. Will this fix that up?

Ms Mellor: The powers that we have in the old bill and the power that we have in the new bill for monitoring are largely the same at the border. The systems that we need to improve some of our monitoring are not necessarily affected by the legislation but by forward plans in the reform agenda.

ACTING CHAIR: Yes, but that is what worries me. This might be just a new look at the fixed administrative and monitoring overheads and not the practical implementation of that stuff. Advise me of a way in which you can actually do that. You read about organised crime on the wharves, guns, drugs. I have to say you correctly point out there are dodgy people who supervise it. Sydney Night Patrol that does Sydney Airport has some known criminals on their payroll. We have been talking about that a year or two so I hope they have got rid of some of those people.

Ms Mellor: This bill deals with managing biosecurity.

ACTING CHAIR: I realise that.

Ms Mellor: Not managing security risks at airports et cetera. Regarding your question about the operational activities at the border, this bill is establishing powers, some of which carry forward from the powers in the quarantine act. Some powers are new—civil penalties powers, for example. This bill, for us, is part of a suite of reform measures which include improving our operating systems in concert with some of the powers.

ACTING CHAIR: That is the bit I would like you to take on notice.

Ms Mellor: The bill itself does not deliver the operating systems.

ACTING CHAIR: Yes, but in all the planning, thinking and note changing there must be a concept of where we need to fix that, that and that, and this bill will do it.

Ms Mellor: No, this bill does not change the operating systems as such. There is another plan of work that is administrative that does that, which we have covered in other committees in relation to biosecurity reform.

ACTING CHAIR: But you say this gives you more powers.

Ms Mellor: It does give us more powers.

ACTING CHAIR: I would like the precision of those powers, on notice, and I will leave it at that. Professor, we are all concerned about protecting human health. Does this bill give us greater powers in any way to deal with some of the more tricky things? Sure, there are issues that you can deal with at the border in terms of disease and, as you say, the plague et cetera, but one of the great modern threats to the human race is bacterial resistance and the low intake of antibiotics in the food chain. Do you blokes think about that?

2. HANSARD, PG 16-17

Senator BACK: I ask the question because I for one—and this committee, I know—do not have confidence at the moment in the risk estimation matrix. We all want to work collaboratively together; there is no question about that. This is critically important legislation. As someone said in their opening statements—I think you did, Professor Baggoley—it replaces a Quarantine Act that has held us in good stead for over 100 years. But, until this committee and therefore others

have confidence in that process, I suggest that we cannot progress towards finalising our adjudications.

One of the things that really concern me, and it did other committee members in the consideration of fire blight, was that it was pretty well put to us that World Trade Organization guidelines and articles basically required that the department end up with the result that it did. I know that that is an oversimplification, and I know that Dr Grant and his colleagues are very, very highly professional people. But I still maintained and do now, and I think it has been supported, that the methodology used was incorrect.

I look through those articles, and I heard your answers to Senator Siewert's comments and those of Senator Heffernan. One of the articles says:

... Members—

now being the importing country, us—

shall take into account as relevant economic factors: the potential damage in terms of loss of production or sales in the event of the entry, establishment or spread of a pest or disease; the costs of control or eradication in the territory of the importing Member—

that is us—

and the relative cost-effectiveness of alternative approaches ...

Further, we:

... should, when determining the appropriate level of sanitary or phytosanitary protection, take into account the objective of minimizing negative trade effects.

In both the fire blight and the BSE inquiries, which Senators Heffernan and Nash and I were particularly involved in, we were concerned at all times, about those articles, that Australia's interests were not primary in the department's advice and consideration.

I ask these as questions, I suppose: as part of your consideration and response to our questions, can you assure me that the department will go back and examine those issues and respond to us so that we can go forward confidently in our consideration of the draft legislation?

Ms Mellor: I might just comment on the risk estimation matrix. This committee has already sought an additional hearing, I think as a result of your pursuit of that advice from Mr Peace, and we are trying to settle a date to come and discuss

that with you now. Your secretariat was in touch with us yesterday, so we are trying to settle a date. In relation to the commentary on the WTO, I think I will have to defer to my DFAT colleagues there. Chris, did you have anything—

Mr De Cure: I guess really, just on that issue of minimising trade effect, that is a sort of secondary consideration. You have to take account of that, but the primary thing is that we have a scientific based process that determines whether or not something is compliant.

Senator NASH: I suppose that is our issue. We are not entirely satisfied that the science based process is robust.

Senator BACK: That sums it up. When you say 'secondary', I read article 5 and there are four items. I do not read them as being in some hierarchy of importance, to be perfectly honest with you. Perhaps, when we revisit it, it would be most interesting, Ms Mellor, if indeed the alternative risk matrices as suggested by Peace were applied, for example, to the science applied to fire blight using the matrix that was used, how similarly or how differently the end answer might have come up.

Very, very briefly, the discussion I had with Dr Grant was that he had a multiplier of the impact of the different risks, one of which was very low. In my ignorance, I kept arguing with him: 'Dr Grant, if you multiply any number by a very low number, you will always end up with a very low number. If you have 0.01 in there somewhere and you keep multiplying it with whatever you like, you will end up with a very low level.' In fact, I asked him, 'Why couldn't we add rather than multiply?' and Peace does in fact deal with that. If we can be assured on that, I only have two other questions.

Senator NASH: Sorry, Senator Back—can I just get some clarification that the department will take the first part of your question on notice to do the comparative?

Ms Mellor: Yes, subject to resources, and we have a number of things. If it is going to be a huge exercise, I will have to discuss that with the office, but certainly I have undertaken to have a look at the Peace report and see how we can respond to that in the context of the invitation that the committee has made to us to attend a hearing.

ACTING CHAIR: We are happy for you to put it on lay-by and take a bit of time.

Rural and Regional Affairs and Transport Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the Biosecurity Bill 2012 and the Inspector-General of Biosecurity Bill 2012

Department of Agriculture, Fisheries and Forestry

Question: 1 (Hearing)

Division/Agency: Biosecurity Policy/Department of Agriculture, Fisheries and Forestry

Topic: Biosecurity Bill

ACTING CHAIR: Obviously in an era of modern transport, communications, multinationals—with all sorts of exotic ways of cheating and thieving and debauchery—we have to keep our laws upgraded. Ms Mellor, could you take on notice how the new bills deals with what you consider to be deficiencies in the old bill?...

ACTING CHAIR: But you say this gives you more powers.

Ms Mellor: It does give us more powers.

ACTING CHAIR: I would like the precision of those powers, on notice, and I will leave it at that.

Answer:

Over the last 100 years the *Quarantine Act 1908* has been progressively amended to address the changing demands placed on the biosecurity system. While this has allowed the Commonwealth to effectively respond to biosecurity risks, it has created a complex legislative framework with overlapping provisions and powers that are difficult to interpret and administer – resulting in compliance and administrative difficulties for industry clients and government. In addition, the Quarantine Act, with its relatively narrow reliance on the quarantine constitutional power does not adequately address more contemporary biosecurity risks, including those related to ballast water, invasive species, and cross-jurisdictional responses to pests and disease incursions envisaged as part of the Intergovernmental Agreement on Biosecurity (IGAB).

The *Biosecurity Bill 2012* improves the reach and powers in the Quarantine Act in the following ways:

Scope

- The Bill ensures that equal weight is given to the management of biosecurity risks associated with human, plant and animal health, and the environment (see clause 9 for a definition of biosecurity risk). This ensures that the Commonwealth is able to manage biosecurity risks that impact all sectors.
- The Bill expands the Commonwealth's constitutional scope, by explicitly setting out the various constitutional heads of power upon which the Bill can draw (section 23). The Quarantine Act only explicitly draws upon the Quarantine power. The extension of constitutional powers provides the Commonwealth with the widest possible operation, and ensures that the Commonwealth is not limited to managing biosecurity risks at the border and can manage a wider range of biosecurity risks across the biosecurity continuum, including post border pest or disease incursions, invasive species and ballast water.

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Department of Agriculture, Fisheries and Forestry

- The Bill extends the Commonwealth's powers to manage invasive pests. The Bill provides powers for preventing the introduction of, or controlling or eradicating, invasive pests which threaten ecosystems, habitats or species consistent with articles 7 and 8 of the Convention on Biological Diversity (clause 25). The Quarantine Act contains limited powers to manage environmental biosecurity risks.

Management of biosecurity risks – at the border

- The Bill provides that goods being imported or brought into Australia will immediately become subject to biosecurity control on entering Australian territory (clause 117). Being subject to biosecurity control enlivens powers to assess and manage biosecurity risks associated with the good. This means that the Commonwealth will be able to act immediately to manage biosecurity risks rather than potential delays ordering the goods 'into Quarantine' under the Quarantine Act. The powers to manage biosecurity risks include treatment, destruction and export.
- The Bill provides that goods which have been exposed to biosecurity risks (but which may not pose a risk themselves) are able to be assessed to minimise the likelihood of the pest or disease spreading or establishing itself (Division 9 of Part 1 of Chapter 3). Additionally, where a risk has been identified in an exposed good, biosecurity measures can be carried out to ensure that the biosecurity risks are managed.
- The Bill provides that aircraft and vessels will immediately become subject to biosecurity control on entering Australian territory (clause 191). Similarly, conveyances exposed to these aircraft or vessels will become subject to biosecurity control (clause 192). These provisions ensure that biosecurity officers can assess and manage the biosecurity risks associated with the conveyance. The increased provisions for managing biosecurity risks associated with conveyances allows the Commonwealth to manage biosecurity risks associated with biofouling.

Management of biosecurity risks – within Australia

- The Bill expands the Commonwealth's powers to manage biosecurity risks caused by a pest or disease incursion (Chapter 6). The Bill allows the Commonwealth to monitor and, where necessary, manage biosecurity risks when they emerge on-shore, not just when they arrive in Australia from overseas. It also ensures that the Commonwealth can manage biosecurity risks associated with invasive species (clauses 25 and 309). The powers in the Quarantine Act are limited to dealing with a post-border detection.
- The Bill provides biosecurity officers with the power to assess biosecurity risks associated with goods, premises and conveyances post border, where the officer suspects, on reasonable grounds that a pest or disease is present and posing an unacceptable biosecurity risk Part 2 of Chapter 6). This threshold ensures that the Commonwealth does not have to wait for confirmation of a pest or disease before assessing the biosecurity risks.
- The Bill allows the Director of Biosecurity to issue a biosecurity control order to manage biosecurity risks associated with goods, premises and conveyances post border (Part 4 of Chapter 6). This ensures that the Commonwealth can immediately

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respond to any post border detection, rather than having to link it to an import prior to acting or relying on the states and territories to respond, as would have to happen under the Quarantine Act.

- The Bill provides the Commonwealth with the power to establish biosecurity zones. A zone can be established to assess, monitor or manage biosecurity risks in relation to an area (Parts 5, 6 and 7 of Chapter 6). The types of zones include:
 - biosecurity response zone: a zone to manage biosecurity risks
 - biosecurity monitoring zone (permanent or temporary): a zone to assess and monitor biosecurity risks, and
 - biosecurity activity zone: a zone to manage biosecurity risks associated with carrying out biosecurity activities.

These zone powers are not available to the Commonwealth under the Quarantine Act.

- The Bill provides that Director of Biosecurity with the ability to determine biosecurity response zone over that area in order to manage the risks. Through the establishment of biosecurity zones the Commonwealth will be able to:
 - undertake national preventative measures against a pest or disease establishing in Australia, for example a swill feeding ban, ensuring that measures are in place while jurisdictions implement more permanent regulatory measures;
 - implement national response measures, for example a national standstill, ensuring a timely nationally consistent response, without having to wait for each jurisdiction to implement a regulatory response;
 - respond to biosecurity risks in the marine environment (that arise from biofouling or otherwise) including in Commonwealth waters, where the states and territories do not have jurisdiction;
 - respond to pest and disease incursions affecting numerous jurisdictions or where states and territories do not have the necessary legislative base to respond.

These powers are not available to the Commonwealth under the Quarantine Act.

- The Bill allows the Director of Biosecurity to establish a temporary biosecurity monitoring zone in order to monitor whether a disease or pest has entered, emerged, established itself or spread into an area. These zones will allow the Commonwealth to ensure that pest or disease incursions do not spread. If the pest or disease has been identified in the temporary monitoring zone, a biosecurity response zone can be used to manage the biosecurity risks. The Quarantine Act gives the Commonwealth limited powers to monitor pests and diseases on-shore, as the powers are limited to monitoring human health risk factors (for example, monitoring for mosquitoes).
- The Bill allows the Director of Biosecurity to determine a biosecurity activity zone for the purpose of managing biosecurity risks posed by a disease or pest associated with the exercise of powers or the performance of those functions or duties, performed by, or on behalf of the Commonwealth. This type of zone may be placed around premises under an approved arrangement, or a quarantine station, ensuring

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that the biosecurity risks can be effectively managed. This power is not available under the Quarantine Act.

Reporting

- The Bill provides that biosecurity incidents (such as a pest detection) must be reported in relation to goods which are subject to biosecurity control (Division 8 of Part 1 of Chapter 3). This allows the Commonwealth to respond to any incident in a timely manner, reducing the likelihood of the pest or disease establishing in Australia.

New first points of entry regime

- The Bill creates a first point of entry framework, providing a clear mechanism for determining a first point of entry (Part 3 of Chapter 4). The Bill provides that a specific set of requirements (to be prescribed in the regulations) that a first point of entry must meet. This provides certainty to port and landing place operators about what is needed to become a first point of entry, maintain this status over time and the circumstance under which a first point of entry determination may be varied or revoked. This process ensures that first point of entry operators are able to appropriately manage biosecurity risks. The first port of entry proclamation process under the Quarantine Act does not provide this assurance.

New ballast water regime

- The Bill allows the Commonwealth to regulate the use of ballast water and the management of sediment by Australian and foreign vessels within Australian seas, decreasing the chances of introducing an invasive marine pest (Chapter 5). The Bill creates a comprehensive system for ballast water management and simplifies current legislative and administrative arrangements and allows for the management of ballast water, regardless of where it was picked up (both domestic and international). The Quarantine Act has limited powers available for managing the discharge of ballast water, with the Quarantine Regulations only setting out ballast water record keeping requirements.

New approved arrangement regime

- The Biosecurity Bill replaces the compliance agreement and quarantine approved premise schemes in the Quarantine Act (sections 46A and 66B) with a broader and simpler model of approved arrangements (chapter 7).
- In order to be approved, an arrangement must meet the requirements set out in the regulations and the applicant must meet a fit and proper person test (clause 404). Similarly, the relevant Director may refuse an application for approval of a proposed arrangement or suspend or revoke an approved arrangement where the applicant is an associate of a person who has previously had an application refused, or an arrangement revoked (clause 408). These provisions ensure that all individuals or corporations that have an approved arrangement meet integrity standards and are the right people to manage biosecurity risks. The Quarantine Act does not contain any integrity requirements for compliance agreements or quarantine approved premises.

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- The Bill includes provisions allowing the Commonwealth to manage biosecurity risks associated with a business' operations where an approved arrangement has been suspended or revoked (clauses 419 and 424). This ensures that the biosecurity risks will continue to be managed. This power is not available for compliance agreements and quarantine approved premises under the Quarantine Act.
- The Bill provides for the audit of approved arrangements, ensuring that those business or individuals with an approved arrangement are managing biosecurity risks consistent with their agreement (Division 2 of Part 7 of Chapter 7). The Quarantine Act does not contain any requirement for audit of compliance agreements or quarantine approved premises (although auditing is currently done as part of the quarantine approved premises or compliance agreement arrangement).
- All holders of an approved arrangement will be required to report any biosecurity incidents, associated with their operations to the Commonwealth (Division 2 of Part 6 of Chapter 7). This ensures that the Commonwealth is aware of any biosecurity risks, and is able to respond to these incidents in a timely manner, reducing the likelihood that the biosecurity risk will establish or spread. This is not required under the Quarantine Act.

Simplifying emergency powers

- The Bill includes sections similar to sections 2A, 2B, 3, 12A and 13A of the Quarantine Act that allow the Governor-General to declare the existence of an emergency (Chapter 8). The Bill simplifies these powers and broadens the scope of the emergency provisions to cover severe and immediate threats posed by a pest or disease to human, animal or plant health, the environment or economic activities on a nationally significant scale.
- The emergency chapter includes provisions to ensure the fastest possible response, including declaration of national response agencies to assist in carrying out biosecurity measures and the ability for biosecurity officers, in limited circumstances to enter properties without a warrant (Division 6 of Part 1 of Chapter 8).

New compliance and enforcement measures

- The enforcement and assessment powers across the Bill provide the Commonwealth with increased ability to access documents, allowing for the timely assessment of biosecurity risks and improving the traceability of goods.
- The Bill includes a number of new tools to manage compliance and enforcement with the aim of encouraging stakeholders to voluntarily comply with biosecurity requirements, and dealing with non-compliance appropriately. The Bill includes civil penalties and criminal offences, as well as a range of administrative options such as an infringement notice scheme, enforceable undertakings, and identity provisions. Enforcement options under the Quarantine Act are limited to criminal penalties and

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the infringement notice scheme, hindering the department's ability to deal effectively with a range of non-compliances.

- The Bill contains requirements for individuals to provide personal information when making an application under the Act (clause 506). This allows the Commonwealth to ensure the integrity of individuals and assess whether they are able to manage the biosecurity risks. It also improves the traceability of imported goods.
- The Bill establishes an enforceable undertaking scheme to encourage cooperation with directions under, and compliance with, the Act. This allows the Director of Biosecurity to accept written undertakings committing a person to particular action (or inaction) in order to prevent or respond to a contravention of the Act. This allows the Commonwealth to work with its stakeholders to ensure that biosecurity risks are managed appropriately.

New external scrutiny

- The *Inspector-General of Biosecurity Bill 2012* establishes the statutory office of the Inspector-General of Biosecurity. The Inspector-General will contribute to Australia's biosecurity system by providing independent review of the performance of functions and exercise of powers by the Director of Biosecurity. Decisions and systems will be regularly reviewed resulting in overall system improvements and provide an assurance framework for stakeholders. This will ensure that Australia's biosecurity system maintains its integrity and continues to improve into the future.

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ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the Biosecurity Bill 2012 and the Inspector-General of Biosecurity Bill 2012

Department of Agriculture, Fisheries and Forestry

Question: 2 (Hearing)

Division/Agency: Biosecurity Policy, Department of Agriculture, Fisheries and Forestry

Topic: Risk estimation matrix

Senator BACK: I ask the question because I for one—and this committee... That sums it up. When you say 'secondary', I read article 5 and there are four items. I do not read them as being in some hierarchy of importance, to be perfectly honest with you. Perhaps, when we revisit it, it would be most interesting, Ms Mellor, if indeed the alternative risk matrices as suggested by Peace were applied, for example, to the science applied to fire blight using the matrix that was used, how similarly or how differently the end answer might have come up.

Very, very briefly, the discussion I had with Dr Grant was that he had a multiplier of the impact of the different risks, one of which was very low. In my ignorance, I kept arguing with him: 'Dr Grant, if you multiply any number by a very low number, you will always end up with a very low number. If you have 0.01 in there somewhere and you keep multiplying it with whatever you like, you will end up with a very low level.' In fact, I asked him, 'Why couldn't we add rather than multiply?' and Peace does in fact deal with that. If we can be assured on that, I only have two other questions.

Senator NASH: Sorry, Senator Back—can I just get some clarification that the department will take the first part of your question on notice to do the comparative?

Answer:

As discussed at the hearing, the department will consider Mr Pearce's report on the department's risk estimation matrix as resources allow, noting that the Rural and Regional Affairs and Transport Reference Committee has indicated that it will be holding hearings in relation to this issue on 12 March 2013.

**SENATE RURAL AND REGIONAL AFFAIRS AND TRANSPORT
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**Inquiry into the Biosecurity Bill 2012 and the Inspector-General of
Biosecurity Bill 2012**

Public Hearing Friday, 08 February 2013

Questions Taken on Notice – Tasmanian Salmonid Growers Association

1. HANSARD, PG 28

Senator BACK: So what is the (inaudible) and feedstuff?

Ms Bender: It is a combination of fish meal, fish oil—

Dr Main: A whole range of other protein from the chicken industry to grains—the whole gamut. I cannot give the recipes and things away—

Senator BACK: Chicken is the only terrestrial meat component?

Dr Main: As far as I understand it. I can confirm, but that—

Ms Bender: We can come back to you with that information.

TSGA Response to question from Senator BACK at the

RURAL AND REGIONAL AFFAIRS AND TRANSPORT LEGISLATION COMMITTEE

Biosecurity Bill 2012 [2013], Inspector-General of Biosecurity Bill 2012 [2013]

Friday 8 February, 2013

Excerpt from Hansard:

Senator BACK: So what is the (*inaudible*) and feedstuff?

Ms Bender: It is a combination of fish meal, fish oil—

Dr Main: A whole range of other protein from the chicken industry to grains—the whole gamut. I cannot give the recipes and things away—

Senator BACK: Chicken is the only terrestrial meat component?

Dr Main: As far as I understand it. I can confirm, but that—

Ms Bender: We can come back to you with that information.

Response:

Complete salmon feeds are produced by blending a range of ingredients to reach a target nutrient and energy specification suitable for the life stage of the fish.

We understand how each one is digested singly and in combination. The list of tried and tested ingredients has increased markedly over the last twenty years to meet the sustainability goals of the aquaculture industry.

The Tasmanian salmon industry is committed to the responsible use of the world's resources. As feed is one of our primary inputs into the production process, we have worked with our major feed suppliers to reduce our forage fish meal input and increase protein from other sources.

Salmon feeds may contain the following ingredients noting that feed content can vary significantly and be specific to season, producer and available ingredients:

Algal meal	Lupin meal	Semolina
Algal oil	Lupin protein concentrated	Shrimp meal
Barley	Pea meal	Sorghum
Brewer's yeast	Pea protein concentrate	Soya Lecithin
Canola meal	Potato starch	Soya oil
Canola oil	Fish oil	Soya products
Corn gluten	Krill meal	Sunflower meal
Corn starch	Krill oil	Sunflower oil
DDGS (Dried distillers grain with soluble);	Land based animal products- poultry meal, poultry oil, mammalian blood meal	Tapioca
Faba beans	Linseed oil	Wheat
Fish meal	Poultry oil	Wheat Gluten

It is important to note that land based animal products are a by-product of human food production and meet the highest food safety standards as a result of strict controls in place throughout the supply chain. All land based animal products used in our meal are sourced in Australia from facilities that are either AQIS export accredited or independently quality certified.

Additional information

Excerpt from Hansard:

Senator COLBECK: I think the number is about 1.16 kilos of protein per kilo of fish, and of that 1.16 about eight to 11 per cent is fish. These guys are a really good news story in that context.

Ms Bender: It is a good news story for sustainability.

Senator COLBECK: And cattle is about six or eight kilos of protein per kilo.

Response

Senator Colebeck's assertion that it takes 1.16 kilograms of protein to grow 1 kilogram of fish is too high. It takes around 600grams of protein to grow 1 kilogram of fish.

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**Inquiry into the Biosecurity Bill 2012 and the Inspector-General of
Biosecurity Bill 2012**

Public Hearing Friday, 08 February 2013

Questions Taken on Notice – Eminent Scientists Group

1. HANSARD, PG 41

Senator NASH: Could I ask on that, Chair, if that is all right, two questions. One of the things the committee is struggling with—and it may be too simplistic—is that when it comes to the matrix, as Senator Back has so clearly raised earlier again today, if you multiply anything by a very small amount you are going to end up with a very small amount. So perhaps we could have your comment on that in relation to the matrix. And, without wanting to burden you in any way, shape or form, the work that we have had done is now publicly available, and I wonder whether you could take on notice and perhaps examine that for us, just to give us your view insofar as you could.

CHAIR: Would you be able to independently peer review, in other words?

Dr Radcliffe: It depends on whether or not it is strongly mathematically based or whether it is biologically based, I suppose, insofar as the present group would have a reasonable range of skills in both areas. I am not strong on mathematical issues.

Senator NASH: Can I ask you to take that on notice. Given that you have not seen it, so it is difficult for you to say whether you could or not, could you take on notice for us to have a look at the work that has been done and see if perhaps you—

Dr Radcliffe: On the assumption that the committee is entitled to refer a question to a departmentally appointed committee—

ACTING CHAIR: But you are an independent—

Dr Radcliffe: Yes, we are. We like to think we are.

ACTING CHAIR: you should prosecute your independence in this case and tell everyone who tries to cross that line to bugger off and we will give you the authority, from our perspective, to do it.

Senator NASH: Yes.

Dr Radcliffe: If you wish to provide a copy of the report—

Senator NASH: The secretariat will do that.

Dr Radcliffe: then I think we could examine it for you.

Senator NASH: Thank you, Dr Radcliffe.

Dr John Radcliffe AM, FTSE

February 28 2013

Mr Stephen Palethorpe
Committee Secretary
Senate Standing Committee on Rural and Regional Affairs and Transport
PO Box 6100,
Parliament House
Canberra ACT 2600

Dear Mr Palethorpe,

**Public Hearing Friday, 08 February 2013
Questions Taken on Notice – Eminent Scientists Group**

I refer to the invitation from the Committee to review the paper by Peace, C. (2013) *Advice on the risk estimation used by DAFF Biosecurity as part of the Import Risk Analysis process* (Client Report CR0127 Australian Senate Rural and Regional Affairs and Transport Committee) Wellington NZ : Risk Management Ltd. I should like to offer some comments following consultation with my colleagues who are members of the DAFF Eminent Scientists Group.

Essentially, Mr Peace appears to recognise the quality of scientific rigour provided by DAFF Biosecurity in undertaking Import Risk Analyses, an observation supported by and we hope contributed towards by the Eminent Scientists Group. However, Peace discusses changes that could be made to present analytical practices. We are unpersuaded that significant improvements would arise in consequence, but the Committee may wish to seek further advice on these alternative analytical techniques, perhaps from the Australian Centre of Excellence for Risk Analysis (ACERA) based at the University of Melbourne as these matters are outside the skills for which we were appointed to the Eminent Scientists Group. However, Mr Peace does make some helpful operational suggestions which we have supported. We further discuss various specific issues as follows:

Language

Mr Peace, as author, correctly points out in the paper the variations in meanings and definitions between treaties, agreements and standards. Much of the debate revolving around the use of Import Risk Analyses is of an etymological nature. Peace is careful to define the terms that he uses. The Committee may wish to explore whether more consistent and better-understood terms could be identified for use in Import Risk Analyses (IRAs) by DAFF Biosecurity to minimise what Peace refers to as “idiosyncratic interpretation” on page 18.

These issues are largely a matter of risk communication and may not materially alter the scientific outcome of the analysis.

Risk

We note that Peace comments that “risk is the likelihood of the consequences on an event”, but we note that the statement appear not to be tacitly correct in that it discounts the likelihood of an event occurring in the first place. We are not convinced that DAFF’s definition “risk being the likelihood of an event occurring” is wrong. An event may well occur (“a food product passes undetected through the barrier”), but it may or may not prove to have quarantine consequence (“the importer ate most of it and destroyed the remainder”).

We note from the Risk Management Ltd website that Mr Peace over the period 2007-2012 represented Massey University on the joint standards committee under Standards Australia and Standards New Zealand that wrote AS/NZS 4360: 2004 *Risk Management* (now replaced by AS/NZS ISO 31000) and worked on risk-related standards and handbooks aligned with the international standard. The author, in a table on page 9 of his advice, summarises a comparison between AS/NZS ISO 31000:2009, WTO Sanitary and Phytosanitary measures, FAO Codex Alimentarius, the Terrestrial Animal Health Code and the International Plant Protection Convention. It is noted that steps specifically identified in the ISO document are in some cases only implicit in the other document. However, it would be our view that the explicit steps listed by the ISO document have been addressed in each of the IRAs that have been referred to the Eminent Scientists Group (ESG).

Quantitative Risk Estimates and Scientific Uncertainty

Reference is made on page 10 to a quotation from the UK Health and Safety Executive’s publication *Quantified risk assessment: its input to decision making*, reviewing 16 case studies of quantified risk assessment, that

“...the numerical element must be viewed with great caution and treated as only one parameter in an essentially judgement exercise”.

We support that view. Peace suggests in his advice (page 14) that records may show a specified type of event has a known frequency but matrix designers are unaware of it. That may be true for the example he gives on page 28 - dust (*e.g.* flour mill) explosions, of which there have been many and for the many other risk areas where Mr Peace has particular training and experience such as Occupational Health and Safety, Fire, Air Pollution etc.

However, in the context of analysing biosecurity risks from a proposed import, it should be recalled that the analysis has to resolve matters of scientific uncertainty in terms of the potential biological impact of a new species on agricultural practices or the natural environment, if any. When identifying the risks (hazards) that could eventuate from the introduction of new biological products at the border, the “level of risk”, the probability of occurrence, and the consequences will rarely have any prior measured estimations available in the Australian environment being addressed for the purposes of establishing an Appropriate Level of Protection for Australia (ALOP) that is defensible internationally. Indeed, the thresholds for use in the matrix should be defined *a priori* before beginning the assessment to guarantee a transparent process. Judgements have to be made on the basis of the experience of the participating individuals – in essence using an “expert systems” approach to the topic. Those doing the estimations must be free of any conflicts of interests, in terms of benefitting from the judgements to be made and the existing process is designed for that purpose. As the author points out, stakeholders evaluating the outcome of the IRA

being evaluated will analyse the level of risk differently in terms of the types of consequences that might follow depending on their personal interests.

Analytical quality and communication

We note the author's page 12 statement, which we support, advising that "...it is likely DAFF import risk analyses are providing the 'best available information' for the nature of import risks". DAFF Biosecurity appears to communicate effectively to stakeholders of its intention to undertake an IRA when petitioned to do so by another national authority on behalf of a potential importer. It makes available the draft IRA for comment by anyone interested, and this process is quite transparent. From the experience of the ESG, the comprehensive nature of DAFF's science in identifying risks has been impressive, albeit sometimes slow. The ESG's task has been to review the adequacy of the science responding to issues raised by stakeholders in considering deficiencies or suggested amendments to draft IRAs. There have been very few occasions where we have been able to criticise the science or identify omissions of science in the IRAs we have examined. However, we have found quite a few examples where Biosecurity Australia could have better expressed scientific responses to issues being raised by respondents to a circulated draft, and we have identified those examples to the Director of Agriculture, Fisheries and Forestry. However, any improved scientific expression would not have materially affected the conclusions of the IRA, though it may have improved understanding. We have suggested on several occasions that in the interests of transparency, these responses should be reviewed and made publicly available.

Collateral damage

Mr Peace also comments that he was asked whether import risk analyses are adequately addressing risks for species or crops other than the subject of the import risk analysis, but felt unable to respond as it was outside his competence. Our experience is that other vectors and alternative host species are considered by DAFF within the science that is available. The review of science is quite exhaustive during the initial phase of the analysis, but where Australian native species are relevant, the amount of scientific information on which to make judgment is often limited. This may raise the issue of adopting the "precautionary principle". In developing IRAs, use must be made of the best science available at the time of the analysis, but DAFF is not expected to initiate major research programs in consequence of developing an IRA. Scientific knowledge often further evolves over time and significant new findings can lead to a subsequent revision of import policy. The proposals in the draft Biosecurity Bill should enhance science engagement by officers in the environment and health areas.

Use of matrices and alternative instruments

We observe that Peace in seeking to discuss the use of matrices, hypothesises an example that assumes (page 17) that there is a negligible risk of foot and mouth disease entering Australia but that there is a high likelihood that extreme consequences would follow if it did. This is an unfortunate illustration as a report, commissioned by DAFF from Mr Ken Matthews AO, released in November 2011, indicated that large gaps remain in Australia's capacity to prevent an incursion, or respond effectively should the disease reach Australia's shores. We understand that these gaps are being or have been addressed through the Standing Council on Primary Industries.

The paper includes considerable theoretical discussion about qualitative risk matrices. From our experience, we are not persuaded that a five point scale has any great advantage over a six point scale. We are comforted by Peace's comment "...having re-read the four IRA reports and been impressed with the qualitative analyses and their summary risk evaluations...".

Peace quotes on page 13 a paper discussing use of risk matrices by Cox L (2008) *Risk Analysis* **28** (2) 497-512, which is available on the web at <http://onlinelibrary.wiley.com/doi/10.1111/j.1539-6924.2008.01030.x/full> . Cox notes that
"...categorizing severity may require inherently subjective judgments (e.g., reflecting the rater's personal degree of risk aversion, if severity is modelled as a random variable) and/or arbitrary decisions about how far to aggregate multiple small and frequent events into fewer and less frequent but more severe events."

The quality of judgment may well be enhanced by a good understanding of the science that underlies the judgment to be made. Cox goes on to say

"...risk matrices do not necessarily support good risk management decisions and effective allocations of limited management attention and resources. Yet, the use of risk matrices is too widespread (and convenient) to make cessation of use an attractive option. Therefore, research is urgently needed to better characterize conditions under which they are most likely to be helpful or harmful in risk management decision making (e.g., when frequencies and severities are positively or negatively correlated, respectively) and that develops methods for designing them to maximize potential decision benefits and limit potential harm from using them."

This leads into a set of mathematical issues upon which my colleagues and I on the Eminent Scientists Group do not feel able to venture given that the Group was established as experts in other aspects of science to review scientific responses to the IRAs. However, we note that Cox does not suggest alternative instruments for the purpose.

While preparing our response to one of the IRAs that were referred to the ESG, we became aware that Biosecurity Australia had scope to make greater use of expertise available, and that there are a number of areas where Australian Centre of Excellence for Risk Analysis (ACERA) based at the University of Melbourne could assist. We noted that it was established specifically for this purpose and receives funding from DAFF to research methodology for biosecurity risk analysis and could be asked more explicitly by DAFF to provide advice, including any effect of qualitative versus quantitative risk analysis on the consequences and methodology of sampling and on the forms of and use of matrices.

However, we understand that some work has been done in this area for ACERA by Dr Simon Barry of CSIRO Mathematics, Informatics and Statistics, in a detailed discussion paper entitled "Putting the quantitative into qualitative Import Risk Assessments". This is available at http://www.acera.unimelb.edu.au/materials/endorsed/0705b_final-report.pdf . The paper finishes by saying

"In conclusion, the key issue to consider is what are the quantities that are being estimated at each step and how the questions can be framed to aid assessors in providing a well framed and interpretable response.....The discussion in the previous sections has demonstrated that it is possible to construct a compound assessment using the components typically considered in a qualitative assessment that is logically based, interpretable and all components are clearly defined. It needs no more data

than a qualitative assessment as it simply requires the analyst to express what they are thinking in a coherent framework.”

We suggest that the Senate Standing Committee on Rural and Regional Affairs and Transport may wish to seek advice from ACERA on these issues.

Similarly, the ESG does not feel able to comment on whether the additional suggestions by Peace to use “event tree analysis” and “bow tie analysis” would add a higher degree of rigour to the individual pest risk assessments that underpin an IRA and ACERA’s advice could be sought on their merits.

The ESG has also commented in one of its IRA responses that we see an advantage in having a suitable independent party (such as ACERA) review the range of models used in the IRA process by our major trading parties. We understand that some work in this area has been done by ACERA (refer http://www.acera.unimelb.edu.au/materials/endorsed/0709_final-report.pdf) but this could be extended further to other trading partners and might well be useful in advancing Australia’s opportunities to export.

Risk Analysis Checklist

Mr Peace advises

“While we have been impressed with the scientific information in three import risk analyses, a detailed review of these is outside our terms of reference. The narrative reports describe the nature of each risk and for the basis for any determination of the level of risk”.

Mr Peace goes on to suggest a risk analysis checklist (pp25-26) and that DAFF officials may wish to develop it further. We would support this as a constructive suggestion.

Revision of Import Risk Analysis Handbook

It is also suggested that the Import Risk Analysis Handbook should be revised to reflect full details of techniques available to DAFF risk analysts and any underlying data or research validating those techniques. It is also observed that

“The current Import Risk Analysis Handbook does not mention, let alone describe the use of the DAFF risk estimation matrix.”

This is correct, but the matrix is well described in the introduction to each IRA as is made clear in Appendix 2 – “Method of pest risk analysis”. In so far as the Handbook will need to be revised as a result of whatever Biosecurity legislation emerges from the current considerations, the suggestion to revise the Import Risk Analysis Handbook is also supported.

I hope these comments and discussions regarding Mr Peace’s paper will be of assistance to the Committee

Yours sincerely

(Dr John C Radcliffe AM FTSE)

CHAIR, EMINENT SCIENTISTS GROUP