Import Risk Analysis: Pigeons (*Columba livia*) from Australia

REVIEW OF SUBMISSIONS

13 August 2009

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Policy and Risk
MAF Biosecurity New Zealand

Import Risk Analysis: Pigeons (*Columba livia*) from Australia

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Approved for general release

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1. Executive Summary

MAF Biosecurity New Zealand released the draft document *Import Risk Analysis: Pigeons (Columba livia) from Australia* for public consultation on 11 May 2009. The closing date for public submissions on this document was 26 June 2009.

Based on comments made by stakeholders in response to the published draft import risk analysis, this review of submissions document makes recommendations for changes required to amend the draft document to a final risk analysis.

The next step in this process will be for the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ to draft an import health standard alongside a document that outlines the rationale for the preferred risk management measures. These documents will then be published for a six-week period of public consultation.

As a result of comments made in these submissions, it is recommended that the following changes should be made in the final risk analysis:

- The word "budgies" in Section 5.2.3 should be corrected to "pigeons".
- A reference to Peroulis and O'Riley (2004) should be made in Table 1 to support Australian freedom from HPAI viruses.
- Table 1 of the risk analysis should be amended to acknowledge that IBV and group 3 coronaviruses have been reported in pigeons.
- A reference to the Biosecurity Australia generic import risk analysis for chicken meat should be included in Chapter 6 to support Australian freedom from APMV-2 and APMV-3.
- Section 7.1.3 should be amended as suggested in 3.2.20 of this document.
- Section 7.1.5 (Hazard identification conclusion) should be amended as described in the response to 3.2.21 in this document.
- Chapter 8 should be amended to clarify that Group 3 coronaviruses have been detected in pigeons but limited sequencing suggests that these viruses are clearly not isolates of IBV.
- Section 9.3.1 should be amended as described in the response to 3.2.31 in this document.
- Section 12.1.4 should be amended as discussed in the response to 3.2.34 in this document.

2. Introduction

Risk analyses are carried out by MAF Biosecurity New Zealand under section 22 of the Biosecurity Act 1993, which lays out the requirements with regard to issuing Import Health Standards (IHSs) to effectively manage the risks associated with the importation of risk goods.

Draft risk analyses are written by the Risk Analysis Group and submitted to internal, interdepartmental, and external technical review before the draft risk analysis document is released for public consultation. The Risk Analysis Group of MAF Biosecurity New Zealand then reviews the submissions made by interested parties and produces a review of submissions document. The review of submissions identifies any matters in the draft risk analysis that need amending in the final risk analysis although the decision to implement these changes lies with an internal committee of MAF Biosecurity New Zealand. These documents inform the development of any resulting IHS by the Border Standards Group of MAF Biosecurity New Zealand for issuing under section 22 of the Biosecurity Act by the Director General of MAF on the recommendation of the relevant Chief Technical Officer (CTO).

Section 22(5) of the Biosecurity Act 1993 requires CTOs to have regard to the likelihood that organisms might be in the goods and the effects that these organisms are likely to have in New Zealand. Another requirement under section 22 is New Zealand's international obligations and of particular significance in this regard is the *Agreement on Sanitary & Phytosanitary Measures* (the "SPS Agreement") of the World Trade Organisation.

A key obligation under the SPS Agreement is that sanitary and phytosanitary measures must be based on scientific principles and maintained only while there is sufficient scientific evidence for their application. In practice, this means that unless MAF is using internationally agreed standards, all sanitary measures must be justified by a scientific analysis of the risks posed by the imported commodity. Therefore, risk analyses are by nature scientific documents, and they conform to an internationally recognised process that has been developed to ensure scientific objectivity and consistency.

MAF Biosecurity New Zealand released the draft document *Import Risk Analysis: Pigeons (Columba livia) from Australia* for public consultation on 11 May 2009. Every step was taken to ensure that the risk analysis provided a reasoned and logical discussion, supported by references to scientific literature. The draft risk analysis was peer reviewed internally and externally and then sent for interdepartmental consultation. Relevant comments were incorporated at each stage of this review process. The closing date for public submissions on the risk analysis was 26 June 2009.

Six submissions were received. Table 1 lists the submitters and the organisations they represent.

This document is MAF Biosecurity New Zealand’s review of the submissions that were made by interested parties following the release of the draft risk analysis for public consultation. Public consultation on risk analyses is primarily on matters of scientific fact that affect the assessment of risk or the likely efficacy of any risk management options presented. For this reason, the review of submissions will answer issues of science surrounding likelihood, not possibility, of events occurring. Speculative comments and economic factors other than the effects directly related to a potential hazard are beyond the scope of the risk analysis and these will not be addressed in this review of submissions.

Table 1. Submitters and Organisations Represented

Submitter	Organisation Represented/Location
Neil Christensen	Avivet Ltd
Michael Brooks	Poultry Industry Association of New Zealand and Egg Producers Federation of New Zealand
Michael Fletcher	Henderson Racing Pigeon Club
Geoffrey J. Stowell	Pigeon Racing New Zealand Incorporated
Peter Hill	Plimmerton Racing Pigeon Club
Colin Webster	Auckland Racing Pigeon Federation Inc.

3. Review of Submissions

3.1. NEIL CHRISTENSEN, AVIVET LTD

MAFBNZ notes that this risk analysis was initiated by Dr Christensen in 1999 and subject to initial external expert review in 2001. Following internal review of this risk analysis, further drafts were prepared by Dr Christensen in 2001 and 2002. No further progress was made until this project was resurrected in 2006 with Dr Christensen working alongside the MAFBNZ risk analysis group. In 2007, Dr Christensen's participation in this project ended and the draft risk analysis was subsequently subject to further internal review, a second round of external expert review, and interdepartmental review. The draft import risk analysis published on 11 May 2009 is based upon the document prepared by Dr Christensen but also incorporates comments made during these later reviews.

3.1.1. As one of the authors of the IRA, I am generally pleased with the final version after the internal and external review, and I am confident a practical set of Import Health Standards will emerge that will allow the resumption of importation of live pigeons from Australia, a trade that continued for 150 years until 1996 without any obvious adverse effects on New Zealand avifauna.

MAFBNZ response: Noted.

3.1.2. My main source of disappointment is the dilution of the importance of ensuring that the risks of importation of APMV-1 are adequately controlled by the similar weight given to a number of other pathogens in the IRA, often contrary to the balance of evidence. I believe that by over-emphasising nebulous "risks" in a minor species such as pigeons, New Zealand lays itself open to similar tactics which may be used in far more important trade issues, such as has happened with apple exports to Australia.

MAFBNZ response: It is unclear from this submission which "risks" the author considers to be poorly defined (nebulous). The published draft import risk analysis presents risk management options for several hazards, all of which have a clearly described aetiology.

Furthermore, although many of these hazards might be perceived to represent a minor risk to pigeons, MAFBNZ is obliged to consider the nature and possible effect on people, the New Zealand environment, and the New Zealand economy of any organisms that pigeons may bring into New Zealand.

3.1.3. Section 9 Birnavirus (IBD): The conclusion that pigeons carry a non-negligible risk of importation is apparently based on the detection of elements of the genome (not the virus itself) from a single pigeon of indeterminate species from Tanzania, and the detection of 2/144 seropositive rock pigeons in Japan sampled over an 8 year period. Given the acknowledged presence of IBD in Australia for at least 20 years prior to 1996, and the contact between imported pigeons and chickens (the only species in which IBD causes clinical disease), there would have

been a reasonable expectation of introduction of Australian types of IBD into New Zealand chickens.

MAFBNZ response: MAFBNZ recognises that the earlier draft of this risk analysis prepared by the author considered that IBDV had not been recorded in pigeons. However, during expert peer review, the publication by Kasanga et al (2008) was cited as providing evidence that IBDV had been recently described in pigeons and a further literature search uncovered the earlier report by Ogawa et al (1998) regarding seropositive rock pigeons in Japan.

3.1.4. In the case of option 2 (and 3) the AGP antigens mentioned in the OIE recommendations are not widely available anymore, and currently-used ELISA tests recognise the fact that IBD is a disease of chickens and are not suitable for testing sera from pigeons.(see the rigmarole the Australians had to through to validate their duck IBD ELISA). The logical approach is to accept the paucity of evidence regarding IBD in pigeons, and the overwhelming evidence of non-exposure from previous imports of Australian pigeons.

MAFBNZ response: The above comments (3.1.3 and 3.1.4) are interpreted as support for risk management Option 1, allowing the unrestricted entry of pigeons based on the assessment that the likelihood of IBDV infection in pigeons is extremely low.

Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis.

3.1.5. Section 14 Salmonella: In regard to the testing of pigeons, it should be noted that these imports are likely to be of individual racing and breeding birds. Option 1 is suitable for testing of individuals, whilst option 2 is more suitable to breeding flocks. Pigeons should be treated as individuals and all the imported birds tested in pre-export isolation prior to departure.

MAFBNZ response: Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis.

3.1.6. Section 15 Q fever: The proposal to test pigeon imports runs contrary to common sense given that the consequence assessment indicates that Q fever causes a serious disease in humans not birds, the risk of exposure carried by the hundreds of thousands of New Zealanders who visit Australia each year and migrants returning home is much higher than New Zealand residents will carry from exposure to imported pigeons. Given that the highest risk occupations are those who work in the meat industry, it is likely that New Zealand government officials and meat industry personnel visiting Australian meat plants are exposed to greater risk of infection than visitors to Australia general.

MAFBNZ response: MAFBNZ recognises that the earlier draft of this risk analysis prepared by the author considered that the risk of exposure of humans in New

Zealand to *Coxiella burnetii* as a result of the importation of pigeons from Australia was negligible, compared to the risks carried by the hundreds of thousands of New Zealanders who travel to Australia each year.

The published draft import risk analysis acknowledges that the likelihood of humans in New Zealand being exposed to *C. burnetii* as a result of the importation of pigeons will be considerably lower than the risk posed by the many individuals who travel to Australia each year. However, as pigeons have been described as a source of infection in humans, it is not unreasonable to suggest that the likelihood of human exposure should be considered very low but non-negligible.

The above comments are interpreted as support for risk management Option 1, allowing the unrestricted entry of pigeons. Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis.

3.1.7. Section 17 Protozoal blood parasites: There has been little, if any, effort put into examining blood smears from New Zealand pigeons. In Australia, a prominent Victorian pigeon veterinarian examines 2-3 blood smears per day mainly for haematological parameters rather than haemoparasites, and he recalled only one or two haemoparasite positive findings over a five year period. A discussion with an Auckland veterinary pathology laboratory haematologist indicated that he could not recall examining any blood smears from pigeons, whether native, feral or racing pigeons. This situation reflects the New Zealand situation with a number of pigeon-specific pathogens common in other countries - we have never looked for them, and when we do, as occurred with Pigeon Circovirus, we are able to confirm their presence here. The Auckland laboratory examines a number of blood smears from native birds on behalf of DOC, and finds a small number of smears positive for a range blood parasites, as noted in the IRA. If we look we will probably find a small number of positive smears. The import health standard should put due weight on our 150 years experience, and occasional ongoing pigeon refugee arrivals and proceed with option 1. Options 2 and 5 would lack sensitivity required for importation purposes. Options 3 and 4 are unwarranted given the history of ongoing imports.

MAFBNZ response: Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis.

3.1.8. Section 5 Avian paramyxovirus-1: Section 5.2.3 3rd line budgies should read pigeons - how this could have escaped all our spell checks and proofing escapes me.

MAFBNZ response: This error is acknowledged and will be corrected in the final version of the risk analysis that will be published alongside this review of submissions document.

3.1.9. The fact that pigeon isolates may include pigeon variants (PPMV-1) and typical ND strains introduces a complexity into the situation that we need to be very cautious about, as Australia's

status in respect of Newcastle disease is the major disease status change since 1996 when pigeon imports were suspended. 99% of the any risks associated with resumed imports stem from APMV-1 and it is vital that thorough testing be carried out. The numbers of studs likely to be involved in exporting to New Zealand is limited, and given the limited serological surveillance of these studs, a two stage serological testing requirement involving the stud itself and the birds to be exported should be put in place with negative results from both.

MAFBNZ response: The suggested testing regime will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis.

3.1.10. I am also informed that there was no cessation of racing during the Australian Newcastle disease outbreak, so they do not regard pigeons as an important potential vector of Newcastle Disease.

MAFBNZ response: Noted

3.1.11. Section 7 Avian influenza: Compared to Newcastle disease, the much lesser susceptibility of pigeons to AI virus, and their limited involvement in the disease's spread should be highlighted.

MAFBNZ response: This is acknowledged in the draft import risk analysis under Section 7.1.4 (Epidemiology):

Pigeons have been shown to be resistant to infection with AI viruses (Panigrahy et al 1996), including experimental infection with the highly pathogenic H5N1 virus (Perkins and Swayne 2002) and several references report the absence of evidence of AI infection in surveys of pigeons (Black et al 2004; Toro et al 2000). However, with the emergence of the highly virulent H5N1 that has caused a global pandemic of AI in poultry, much attention has been focussed on this strain. There are reports indicating that pigeons can be infected experimentally with HPAI virus subtype H5N1(Klopfleish et al 2006). A recent review concluded that pigeons are only partially susceptible to influenza A viruses of the H7 subtype and even less susceptible to subtype H5 viruses. It was noted that "Current expert opinion, as supported by the European Food Safety Authority Expert Group report, suggests that pigeons have the potential to act as bridging species between waterfowl and poultry i.e. that they may transfer the disease from infective waterfowl to poultry". This review concluded that pigeons may spread AI viruses biologically or mechanically (DEFRA 2006). However, no evidence has been found that pigeons are long-term carriers of AI viruses.

The low likelihood of infection is also reflected in the entry assessment (Section 7.2.1):

LPAI viruses occur endemically in Australia and the number and type occurring there are likely to be in continual flux. Pigeons are generally resistant to infection with AI viruses but infection with some types has been occasionally reported. Therefore, there is a low likelihood of introducing the viruses in the commodity.

3.1.12. IDEXX have recently introduced an ELISA suitable for use with sera of many bird species (previously the ELISA we have used has been limited to chickens and turkeys). This new test has surveillance potential that can possibly be utilised in the pre-export testing for exposure to AI in these imports.

MAFBNZ response: Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis.

3.2. MICHAEL BROOKS, POULTRY INDUSTRY ASSOCIATION OF NEW ZEALAND AND EGG PRODUCERS FEDERATION OF NEW ZEALAND

3.2.1. Section 1. Introduction. The New Zealand Poultry Industry notes that this risk analysis deals with the importation of live pigeons from Australia. Industry notes that traditionally import health standards which allow for the importation of avian species into New Zealand have been based on the importation of eggs for hatching rather than live birds (e.g. chicken hatching eggs and passerine hatching eggs), as the importation of hatching eggs poses less risk of introduction of potential hazards than the importation of live birds. Industry acknowledges that there are instances where the importation of eggs of avian species may be impossible (or extremely difficult) and thus importation of live birds must be considered. However, where this is the case, Industry believes that the reasons for this deviation must be detailed in the IRA for the purposes of transparency and clarification. This will prevent potential importers of other bird species mistakenly thinking that importation of live birds is routinely considered by Biosecurity New Zealand.

> ***MAFBNZ response:*** Section 2 of the risk analysis (Scope) states, "This analysis is limited to the description of the risks due to disease-causing organisms associated with the importation of live domestic pigeons (*Columba livia*) from Australia".
>
> Any requests for the development of a new import health standard for other live avian species would be subject to MAFBNZ's usual procedures (see: http://www.biosecurity.govt.nz/regs/imports/ihs/request)

3.2.2. Section 3. Commodity definition. Industry notes that Section 2 (Scope) refers to "live domestic pigeons" and requests that the commodity definition also include reference to the fact that the birds are live, for purposes of clarification and consistency.

> ***MAFBNZ response:*** This is implied in the document and further clarification is considered unnecessary.

3.2.3. Section 4.1. Preliminary Hazard list. Industry notes the statement (supported by the reference OIE 2007), that highly pathogenic avian influenza (HPAI) does not occur in Australia. The New Zealand Poultry Industry acknowledges that HPAI does not currently occur in poultry in Australia and agrees that the reference supports this. However, industry notes that the reporting requirements for avian influenza apply only to poultry, and the definition of poultry listed in the OIE Terrestrial Animal Health Code (the Code) chapter on avian influenza specifically excludes pigeons that are not kept for meat or egg production. The reference provided therefore cannot be used in support of a conclusion that HPAI is not present in Australia in birds other than that defined as poultry in the avian influenza chapter of the Code.

> ***MAFBNZ response:*** Further information regarding the avian influenza status of Australia is provided in Section 7.1.4 of the draft import risk analysis, referenced to an Animal Health Australia publication (http://www.animalhealthaustralia.com.au/programs/adsp/nahis/diseases/).
>
> Furthermore, Peroulis and O'Riley (2004) sampled 605 wild birds (including 133

pigeons) in Victoria and recovered five low-pathogenic H3N2 viruses (none of which were from the pigeons sampled). It is recommended that reference to this publication be added to the preliminary hazard list in the final version of the risk analysis published alongside this review of submissions document.

3.2.4. Similarly, Industry notes the statement (supported by the reference OIE 2007), that virulent Newcastle disease does not occur in Australia. Industry acknowledges that virulent Newcastle disease does not currently occur in poultry in Australia and agrees that the reference supports this. However, industry notes that, as for avian influenza, the reporting requirements for Newcastle disease apply only to poultry, and the definition of poultry listed in the OIE Terrestrial Animal Health Code (the Code) chapter on Newcastle disease also excludes pigeons that are not kept for meat or egg production. The reference provided therefore cannot be used in support of a conclusion that virulent Newcastle disease is not present in Australia in birds other than that defined as poultry in the Newcastle disease chapter of the Code.

MAFBNZ response: The paper cited above (Peroulis and O'Riley 2004) also reports that only two avirulent APMV-1 isolates were recovered, neither of which were from pigeons.

3.2.5. Industry therefore believes that alternative references which support the conclusion that both HPAI and virulent Newcastle disease do not occur in avian species in Australia be included in the preliminary hazard list or alternatively "requires further consideration" should marked as "yes" for both HPAI and virulent Newcastle disease strains and subsequent discussion included. Industry notes that virulent Newcastle disease strains are given some consideration in Section 5 (Avian Paramyxoviruses).

MAFBNZ response: Please see the above responses (3.2.3 and 3.2.4).

3.2.6. Infectious bronchitis virus and group 3 coronaviruses are listed as not "recorded in pigeons" with the reference "Cavanagh & Naqi, 2003". However, Barr *et al*. (1988) as well as other authors cited in the IRA have isolated "IBV, or viruses which have high sequence homology with IBV" from healthy and diseased pigeons. Industry suggests therefore that the infectious bronchitis viruses and group 3 coronaviruses should be listed as having been reported in pigeons in the preliminary hazard list.

MAFBNZ response: In Diseases of Poultry, 11th Edition (Ed YM Saif, Iowa State Press), Cavanagh and Naqi (2003) state: It is generally considered that the chicken is the only bird that is naturally infected by IBV and in which the virus causes disease.
However, in Diseases of Poultry, 12th Edition (Ed YM Saif, Blackwell Publishing), Cavanagh and Gelb (2008) state:

It is no longer considered that the chicken is the only host for IBV, although it is possible that it is only in the chicken that IBV would cause disease.

This more recent reference (Cavanagh and Gelb 2008) explains that coronaviruses have been detected in pigeons and that limited sequencing suggests that these viruses should

be assigned to Group 3 of the coronavirus genus (like IBV) although these viruses are clearly not very closely related to IBV. This is consistent with an earlier review by Cavanagh (2005) who states:

Perhaps the biggest recent step forward in the context of coronaviruses in birds has been the detection of coronaviruses in greylag goose, mallard duck, pigeons and a parrot. These coronaviruses ***are clearly not simply isolates of IBV****, but represent new coronavirus species*.

However, there is a single report in the literature of IBV recovery from pigeons (Barr et al 1988). This publication suggests a vaccinal strain of IBV was recovered from a flock of racing pigeons with a lowered immunity due to intercurrent disease.

It is therefore recommended that Table 1 of the risk analysis be amended to indicate that IBV and group 3 coronaviruses have been reported in pigeons.

3.2.7. In a recent submission made to Biosecurity New Zealand in regards to the Import Risk Analysis for Budgerigars, Industry highlighted a concern that where a specific avian species is not listed in the natural and experimental hosts, it may be concluded on occasion that the disease does not occur in the species in question. This is particularly true when the species under consideration is not of significant economic value to industry or a large sector of the general population, e.g. as is the case for budgerigars and pigeons. Industry notes that the review of submissions relating to the Import Risk Analysis for budgerigars has either not yet been completed or has not yet been placed on the Biosecurity New Zealand website and thus recognises that this concern may have been addressed in that response.

However, given that Industry is unaware of Biosecurity New Zealand's response to this concern, Industry would like to reiterate its concern in this submission. As stated in our previous submission, industry does not believe it is safe to make an assumption that a disease is absent in any given country / species simply on the basis of the absence of reports, as it is possible that this simply reflects the absence of either appropriate surveys or the absence of thorough or conclusive investigation. Alternatively, where thorough investigation has been carried out, it is possible that the presence of the disease has simply not been reported in the literature. Industry suggests therefore that where no specific evidence is available to support the conclusion that a disease does not occur in any given species, in the development of an IRA, Biosecurity New Zealand should err on the side of caution and require further consideration for the organism in question, unless there is sufficient additional information which supports a conclusion that the disease would not occur in the species in question, in which case this should be noted in the IRA. Industry believes that including this clarification in the IRA would help to further improve the transparency of the import risk analysis and support any decisions made by Biosecurity New Zealand when developing an appropriate Import Health Standard.

MAFBNZ response: MAFBNZ published the review of submissions on the budgerigar import risk analysis in May 2009. This document can be accessed here: http://www.biosecurity.govt.nz/files/biosec/consult/ra-budgerigars-uk-subs.pdf.

With regards to the above point, our response to this (see 2.3.1 of the review of submissions on the budgerigar import risk analysis) was:

It is very difficult to prove that a risk does not exist. However, purely hypothetical risks should not be considered in an import risk analysis (Murray et al 2004).

The SPS Agreement requires that sanitary measures be based on either an international standard or a risk analysis that takes into account available scientific evidence. Under the SPS Agreement, if the available scientific evidence is insufficient, sanitary measures may only be applied to a commodity on the basis of available pertinent information although additional information may be sought to allow a more objective risk assessment within a reasonable period of time. Budgerigars are widely agreed to be the most popular pet bird in the world and in New Zealand alone, about 100,000 of these birds are bred each year. Given this level of ownership, MAF considers it justifiable to suggest that significant pathogens associated with this species are likely to be documented in scientific literature. Therefore, where extensive literature reviews have been unable to identify specific agents associated with budgies, it is reasonable to conclude that agent should not be regarded as a preliminary hazard in this species.

3.2.8. The points raised above apply, in this IRA to Orbivirus and *Bordetella avium*, both of which are considered present in Australia but not in New Zealand.

MAFBNZ response: Extensive literature searches have found no reference to infection of pigeons with either of these hazards. However, as noted in Section 2 of the draft import risk analysis, MAFBNZ has the flexibility to modify any IHS based on this risk analysis if future events make this appropriate.

3.2.9. Further inconsistencies in the identification of hazards are observed for

- Papilloma virus the occurrence in Australia of which and recorded in pigeons are both noted as “Unknown”.
- the occurrence of Australian Arboviruses in pigeons which is listed as “??”
- the occurrence in both New Zealand and Australia of Rotavirus which is listed as “?”
- the occurrence in pigeons of Borrelia anserina which is listed as “no information”
- the occurrence of exotic mycoses in Australia and in pigeons which are both listed as “?”.

Industry acknowledges that all of the hazards listed above are given further consideration in the IRA. However, it is unclear from the information contained in the risk analysis why these hazards on which there appear to be little information are treated differently to those such as Orbivirus and *Bordetella avium* which are not considered to require further consideration.

MAFBNZ response: MAFBNZ agrees that these hazards could have been eliminated from consideration at the hazard identification stage of the risk analysis, as was the case with Orbivirus and *Bordetella avium*. However, as further consideration

was given to these hazards during the protracted gestation of this document, these chapters were retained in the published draft import risk analysis.

3.2.10. Industry agrees with the conclusion that the following diseases do not require further consideration – as the disease status, in respect to these diseases, of Australia and New Zealand are the same.

- Pneumovirus (turkey rhinotracheitis, swollen head)
- Duck virus enteritis virus
- Marek's disease virus
- Psittacine beak and feather disease virus
- Polyoma virus
- Louping ill virus
- Nairovirus
- Borna disease virus
- Avian leucosis virus
- Transmissible spongiform encephalopathy
- Salmonella Arizonae
- Pasteurella gallinarum
- Mycobacterium tuberculosis
- Francisella tularensis
- Megabacterium spp.

However, industry suggests that listing the occurrence in pigeons of these hazards as "No*" is somewhat confusing. As industry noted above, we believe that the IRA should err on the side of caution and provide additional information where necessary to support the exclusion of any hazard from the hazard list. In the case of these hazards though, the occurrence of the disease in pigeons is irrelevant when pigeons are imported from Australia. The clarity of the IRA may be improved by including an additional category which clearly illustrates this.

MAFBNZ response: In the cases cited above, extensive literature reviews have shown no evidence of occurrence of the disease in pigeons or reports that pigeons act as reservoirs of the agent. As stated in Section 4.1 of the draft import risk analysis, the information presented in Table 1 shows the key information considered when determining whether or not a disease required further consideration. If a disease is not described in the species of a commodity being subject to a risk analysis then this is clearly germane to such consideration.

3.2.11. Industry notes that there is a lack of references to support the conclusion that the following diseases have not been recorded in pigeons and that no reference to the foot note suggesting extensive reviews of the literature have been undertaken. Industry suggests that this is inconsistent and should be amended (taking into account the points raised above) to ensure clarity of the document. The hazards are:

- Derzsy's disease of geese
- Duck hepatitis 1 & 3 (DVH 1 & 3) virus
- Astrovirus (turkey astrovirus)
- Astrovirus (duck hepatitis complex DVH2)
- Ehrlichia ruminantium

MAFBNZ response: MAFBNZ notes that these diseases listed above are considered to be exotic to both Australia and New Zealand.

Geese, Muscovy ducks and some hybrid breeds are the only species in which Derzsy's disease been observed (Gough 2008).

Natural DHV-1 infection occurs only in young ducklings although pigeons may be infected experimentally with no resulting mortality. Ducks are the only species affected by DHV-2 and neither wildlife reservoirs nor vectors have been detected. DHV-3 occurs only in the United States and has only been described in ducks (Woolcock 2008).

Astroviruses cause, or have been associated with, acute gastroenteritis in humans, cattle, swine, sheep, cats, dogs, deer, mice, turkeys, guinea fowl as well as fatal hepatitis in ducks. Chickens can be infected with astroviruses that are genetically similar to turkey Astrovirus strains. However, whether or not avian astroviruses can infect other animal species is unknown (Reynolds and Schultz-Cherry 2008).

Ehrlichia ruminantium causes heartwater in cattle, sheep, goats, and wild ruminants. The distribution of this disease is limited to sub-Saharan Africa, Madagascar, and three Caribbean islands (Guadeloupe, Marie-Galante, and Antigua) (Radostits et al 2007). An

extensive literature review has found no reference to this organism being recovered from pigeons.

3.2.12. Pigeon circovirus is listed in Table 1 (Section 4.1 Preliminary Hazard List on page 5) as present in New Zealand. However, Industry notes that the recently released Import Risk Analysis for the importation of budgerigars from the United Kingdom listed this disease as absent from New Zealand…Industry also notes that the reference given in the current IRA, to support the conclusion that the disease is present in New Zealand, relates to personal communication between one of the authors and one of the peer reviewers of the current IRA. Industry does not dispute the expertise of either the author of the email or the recipient. However, it is impossible for the Industry or any other interested party to determine the contents of the email or to critically evaluate the conclusions drawn from information contained in the email. Industry strongly believes that where peer reviewed or otherwise published information is not available to support the conclusion that a hazard is present in New Zealand, the hazard should be given further consideration. Information such as that contained in the personal communication can then be presented and conclusions about the risk to New Zealand drawn. This would increase the transparency of the IRA.

MAFBNZ response: As noted in 2.1.1 of the review of submissions on the budgerigar import risk analysis (http://www.biosecurity.govt.nz/files/biosec/consult/ra-budgerigars-uk-subs.pdf.), the primary author of the draft risk analysis intends to make arrangements for the publication of these results in due course.

3.2.13. Industry also notes that the IRA for budgerigars from the United Kingdom states that Rotavirus is present in New Zealand, but that the current IRA considers lists the presence of Rotavirus in New Zealand as "?". This is confusing and industry suggests that the presence of this disease in New Zealand should be reviewed for both the current IRA and the IRA for budgerigars from the United Kingdom.

MAFBNZ response: The final version of the budgerigar risk analysis that was published alongside the review of submissions in May 2009 was amended and both documents are consistent in their consideration of the New Zealand presence of rotavirus See:
http://www.biosecurity.govt.nz/files/regs/imports/risk/budgerigars-uk-ra.pdf.

3.2.14. Industry also notes that this section does not consider antibiotic resistant strains of bacteria which may be present overseas but which are not present in New Zealand. The Industry would like to see these considered in the draft IRA.

MAFBNZ response: MAFBNZ considers it unlikely that pigeons will be subject to the necessary selection pressure required to promote the development and maintenance of antimicrobial resistance phenotypes not recognised in New Zealand. Furthermore, the contribution of any imported antimicrobial resistant organisms associated with live pigeons is likely to be negligible when considered against the number of international travellers regularly arriving in New Zealand and the resistant organisms they might be carrying (Memish et al 2003).

3.2.15. Section 5.2.1. Entry assessment. The first paragraph of this section states "since there have been no reports of PPMV-1 in Australia, the entry assessments for PPMV-1 is negligible". As noted earlier, Industry believes that in the absence of information a precautionary approach should be taken. In this case, as the signs of the disease would be noticeable (with an up to 90% mortality rate in young pigeons according to Greenacre (2005)), lack of reports would suggest that the disease is not present in Australia. Industry believes that this should be noted in the IRA for clarity and transparency.

MAFBNZ response: Noted. However, amendment of the risk analysis is considered unnecessary.

3.2.16. Section 5.2.3. Consequence assessment. Industry notes that this section refers to "budgies" and suggests that this should be amended to "pigeons".

MAFBNZ response: Noted. It is recommended that this error be corrected in the final version of the risk analysis that accompanies this review of submissions document.

3.2.17. Section 5.3.1. Options. Industry is in favour of the application of at least *Option 2* proposed in Section 5.3.1 (Options). However, industry would ideally prefer the application of *Option 4* as this would be consistent with the requirement for importers of poultry hatching eggs to import through a quarantine facility despite the fact that eggs are sourced from flocks which have been tested free of Newcastle disease.

MAFBNZ response: Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis

3.2.18. Section 6. Other Avian Paramyxoviruses. Industry acknowledges that when developing IRAs for commodities such as pigeons, peer reviewed information to support the development of the IRA may not be available. In such cases, Industry realises that non peer reviewed information or expert knowledge may need to be used. However, in these instances, Industry requests that more detail than simply "Buckley D (2007). Personal communication. AFFA." is included. The information currently provide gives no reassurance to any stakeholders or interested parties that the person referenced is an expert in the field or has an appropriate knowledge of the issue in question, simply because it is impossible to identify who the person is or the kind of information which they have provided.

MAFBNZ response: The personal communication cited is from a Senior Veterinary Officer in the Australian Government Department of Agriculture, Fisheries and Forestry.

The Biosecurity Australia generic import risk analysis for chicken meat (see: http://www.daff.gov.au/__data/assets/pdf_file/0004/872788/2008_33c.pdf) also provides confirmation that APMV-2 and APMV-3 have not been reported in avian

species in Australia. It is recommended that this reference be added to the import risk analysis.

3.2.19. The fifth paragraph of this section states "APMV-7 has not been reported in Australia and is therefore not a potential hazard". However, Marlier and Vindevogel (2005) reported that APMV-7 viruses appear to be apathogenic and industry therefore notes that the hazard may be present in Australia but has not yet been identified. Industry also notes that an avian paramyxovirus serotype 7 has been isolated from ostriches (Woolcock *et al*., 2006) and turkeys (Saif *et al*., 1997). Industry therefore requests that the hazard classification is reviewed. As noted earlier, Industry believes that in the absence of information a precautionary approach should be taken, particularly where there is a potential risk to New Zealand native birds.

MAFBNZ response: Please see 3.2.7 above. Furthermore, there is no evidence that the health status of Australia with regard to APMV-7 is any different to that of New Zealand.

3.2.20. Section 7.1.3. New Zealand status. The penultimate sentence of this section states "A recent survey found no evidence of active infection with NAI viruses in 167 farms". For purposes of clarity, this should be changed to "A recent survey found no evidence of active infection with NAI viruses in 167 poultry farms". Industry also notes subsequent to this, additional surveys have been carried out on turkeys and other poultry species.

MAFBNZ response: Noted. It is recommended that the final version of the risk analysis be amended as suggested above.

3.2.21. Section 7.1.5. Hazard identification conclusion. The final sentence of the first paragraph in Section 7.1.4 (Epidemiology) states "For the purposes of this risk analysis all influenza A strains found in birds presented for export to New Zealand will be considered". However, the final sentence of Section 7.1.5 (Hazard identification conclusion) only refers to NAI. Industry suggests that, in line with Section 7.1.4, Section 7.1.5 should also consider LPAI.

MAFBNZ response: Section 7.1.4 (Epidemiology) considers the epidemiology of all strains of Influenza A associated with pigeons. However, as Australia is free of HPAI and there is significant uncertainty regarding which other AI strains are present in either Australia or New Zealand, only LPNAI strains should be considered a potential hazard in pigeons imported from Australia. For clarification, it is recommended that Section 7.1.5 (Hazard identification conclusion) be amended as follows:

Australia is considered free of HPAI. Furthermore, there can be no certainty about which other AI types are present in any country because strains may change as migratory birds come and go and mutations and recombinations occur. Therefore, reflecting this level of uncertainty, LPAI strains are considered to be potential hazards in the commodity.

3.2.22. Section 7.2.1. Entry assessment. This section deals only with the entry assessment for LPAI viruses. Industry suggests that the entry assessment should deal with all influenza A strains as stated in Section 7.1.4 (Epidemiology).

MAFBNZ response: Please see the response to 3.2.21 above.

3.2.23. Section 7.2.3. Consequence assessment. The final paragraph of this section states "It is concluded that the consequence assessment for LPAI strains of virus is considered to be non-negligible for poultry, native birds and human health". However, the final sentence of the first paragraph in Section 7.1.4 (Epidemiology) states "For the purposes of this risk analysis all influenza A strains found in birds presented for export to New Zealand will be considered". Industry therefore suggests that the consequence assessment for notifiable strains of avian influenza is also detailed in the Section 7.2.3.

MAFBNZ response: Please see the response to 3.2.21 above

3.2.24. Section 7.3.1. Options. Ideally Industry would like to see the application of *Option 4* suggested in this section, as this would be in line with the requirements faced by importers of poultry hatching eggs. Industry believes that the minimum level of risk mitigation which can be in place should be that suggested in *Option 2*.

MAFBNZ response: Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis

3.2.25. Section 8.1.3. New Zealand status. Industry agrees with the statement that infectious bronchitis virus is endemic in New Zealand. However, industry believes that this section should detail that only certain strains of the virus occur in New Zealand. This is particularly important as the strains of infectious bronchitis prevalent in New Zealand are considerably less virulent than the strains found in other countries around the world and introduction of more virulent strains would be likely to have a dramatic effect on the performance of New Zealand poultry and subsequently industry profitability.

MAFBNZ response: Section 8.1.5 (Hazard identification conclusion) notes that although IBV is endemic in New Zealand, some strains of the virus may not occur here.

3.2.26. Industry notes that infectious bronchitis virus (exotic strains) is listed as an unwanted organism on the unwanted organisms list managed by Biosecurity New Zealand.

MAFBNZ response: Noted.

3.2.27. Industry notes the statement "the status of pigeon coronavirus is not known". Industry believes that further information regarding the potential presence or absence of the disease in New Zealand should be included here. For example, has an extensive review of the literature being

conducted with no reports of surveys having been carried out or have all the surveys which have been carried out not found any evidence of the hazard?

MAFBNZ response: Section 8.1.5 (hazard identification conclusion) states:

Pigeon Group 3 coronaviruses that are distinct from IBV have not been described in New Zealand or Australia, although intensive searches for them have not been conducted.

3.2.28. Section 8.1.4. Epidemiology. Industry notes the statement "There is no indication from the sparse literature on coronaviruses that they cause economically important diseases in pigeons". Whilst industry acknowledges that the viruses may not cause economically important diseases in pigeons, the point of conducting a risk analysis is not only to identify the risk to the New Zealand pigeon population, but also to identify any risk to other avian species and to New Zealand Inc.

MAFBNZ response: Consideration of the possible impact of an agent on other avian species would be considered in the consequence assessment of a risk assessment if the agent is determined to be a potential hazard. However, in this case, it was concluded that there was insufficient evidence to conclude that group 3 coronaviruses should be considered a potential hazard in live pigeons from Australia.

3.2.29. Section 8.1.5. Hazard identification conclusion. Industry strongly disagrees with the conclusion that "there is insufficient evidence to conclude that Group 3 coronaviruses should be classified as potential hazards in live pigeons from Australia". Industry believes that this contradicts the statement made in the first sentence of this section: "Although IBV is endemic in New Zealand, some strains of the virus do not occur here". Industry believes that Biosecurity New Zealand (and the report authors) has presented evidence in Section 8.1.4 (Epidemiology) that suggests pigeons are affected by infectious bronchitis virus and may act as carriers. In addition, the strains of infectious bronchitis virus present in Australia are different to those found in New Zealand and thus further consideration of the risk associated with the importation of live pigeons into New Zealand is warranted. Industry believes that the risk of introduction of new strains of infectious bronchitis into New Zealand must be considered to be non-negligible and further consideration must be given to risk assessment and risk management for this hazard.

MAFBNZ response: Please see the response to 3.2.6 above. Barr et al (1988) reported the recovery of a vaccinal strain of IBV from a flock of racing pigeons with a lowered immunity due to intercurrent disease. However, since the emergence of SARS-coronavirus in humans in 2002 there has been an increased interest in coronaviruses in other species using modern molecular diagnostic techniques. Group 3 coronaviruses have been detected in pigeons but sequencing now suggests that these viruses are clearly not isolates of IBV (Cavanagh 2005; Cavanagh and Gelb 2008).
It is recommended that Chapter 8 of the draft import risk analysis be amended to clarify this position.

3.2.30. The somewhat controversial statement that "since pigeons were imported into New Zealand from a number of countries for almost 150 years up to 1996, it could be considered likely that coronaviruses that are associated with pigeons in Australia have already been introduced into

this country" almost seems to suggest that there is no need to conduct a risk analysis for any commodity which has previously been imported into New Zealand in the absence of an import risk analysis (i.e. prior to 1996). Industry doubts that this is a position which Biosecurity New Zealand supports, and therefore, this statement should be removed.

MAFBNZ response: Section 4.2 of the draft import risk analysis explains the criteria for determining whether an organism should be considered a potential hazard. This includes consideration of the following questions:

1. Whether the imported commodity could act as a vehicle for the introduction of the organism?
2. If the organism requires a vector, whether competent vectors might be present in New Zealand?
3. Whether the organism is exotic to New Zealand but likely to be present in exporting countries?
4. If it is present in New Zealand,
    i. whether it is "under official control", which could be by government departments, by national or regional pest management strategies or by a small-scale programme, or
    ii. whether more virulent strains are known to exist in other countries?

For any organism, if the answer to question one is "yes" (and the answer to question 2 is "yes" in the cases of organisms requiring a vector) and the answers to either questions three or four are "yes", it is classified as a potential hazard requiring risk assessment.

Under this framework, organisms that are present in New Zealand cannot be considered as potential hazards unless there is evidence that strains with higher pathogenicity are likely to be present in the commodity to be imported. Therefore, although there may be potential for organisms to be present in the imported commodity, the risks to human or animal health are no different from risks resulting from the presence of the organism in this country already.

If importation of the commodity is considered likely to result in an increased exposure of people to a potentially zoonotic organism already present in New Zealand, then that organism is also considered to be a potential hazard.

It is not unreasonable to consider the import history of a commodity, in this case largely unrestricted trade for almost 150 years, in relation to question 3 above, when determining whether or not an organism should be considered a potential hazard in a risk analysis.

3.2.31. Section 9.3.1. Options. Bullet point 4 in this section states "since imported pigeons will have little contact with poultry, the likelihood of transmission from pigeons is low". Industry strongly disagrees with this statement as racing pigeons may be imported under subsequent import health standards arising from this IRA and it would be impossible to determine exactly what contact these birds may have with, for example free range or wild poultry. In addition, as the virus

is “extremely resistant to the external environment” the potential for indirect contact between imported pigeons and New Zealand poultry must be considered.

> ***MAFBNZ response:*** MAFBNZ notes that recommended minimum biosecurity standards for domestic producers (Poultry Industry Association of New Zealand 2007) include measures to minimise the biosecurity risk posed by wild birds. Such measures ensure that the likelihood of commercial poultry being exposed to free-living avian species will be very low. Furthermore, surveys of commercial poultry farms have shown a generally high-level of compliance with biosecurity measures to prevent the introduction of exotic and endemic disease agents, especially in broiler farms (Rawdon et al 2007; Rawdon et al 2008).
>
> Therefore, it is recommended that this bullet point be amended to state:
>
> *Since imported pigeons are likely to have little contact with most commercial poultry, the likelihood of transmission from pigeons is low.*

3.2.32. The potential economic consequences of an outbreak of infectious bursal disease on the New Zealand poultry industry would be severe and far reaching. Consequently, industry is strongly opposed to Option 1. Industry suggests that although Option 2 would require extensive testing, the cost associated with this would be considerably less than that associated with any potential outbreak of infectious bursal disease and consequently industry would support the implementation of Option 2. Industry believes that should a single bird in the consignment test positive, the whole consignment should be rejected. In addition, those birds intended for export should be quarantined prior to export and at least for the duration of the testing period and until exported to New Zealand.

> ***MAFBNZ response:*** Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis.

3.2.33. Section 11.1.4. Epidemiology. Industry acknowledges the lack of published information on the prevalence of various Australian arboviruses in pigeons. However, industry questions whether this information is unavailable simply because the appropriate surveys on pigeons have not been carried out or if it is unavailable because the pigeons are not a maintenance host for these viruses. Industry believes that further discussion around Sindbis virus (for which the maintenance host is birds), Murray Valley encephalitis virus (which has been isolated from chickens and for which water birds are maintenance hosts) and Kunjin virus (the maintenance host for which are probably water birds) is warranted.

> ***MAFBNZ response:*** Section 11.1.4 (Epidemiology) states that a search of three major electronic databases showed no reports in which pigeons have been identified as maintenance hosts of Australian arboviruses.

3.2.34. Section 12.1.4. Epidemiology. The final paragraph of this section states “However, clinical disease was not described in these papers”. Industry disagrees with this as the paper by Gough et al. (1992) refers to birds which suffered from diarrhoea, lethargy and loss of appetite.

MAFBNZ response: MAFBNZ acknowledges that the publication by Gough et al (1992) does describe the recovery of a rotavirus from young pigeons from a loft in which diarrhoea, lethargy and loss of appetite had been reported although the significance of the rotavirus isolate in relation to these signs was not determined. It is recommended that Section 12.1.4 be amended to reflect this.

3.2.35. Section 12.1.5. Hazard identification conclusion. Industry reiterates earlier concerns regarding the importation of pigeons prior to 1996. Industry also notes the statement that "there is no evidence that pigeons are a source of infection for poultry". However, Industry suggests that the potential impact of the importation of Australian pigeons on the native bird population of New Zealand is unknown and no attempt has been made in the document to quantify this. Industry therefore suggests that the hazard identification conclusion should be reviewed with consideration of native birds.

MAFBNZ response: Please see the responses to 3.2.28 and 3.2.30 above. Furthermore, there is no evidence that exotic rotaviruses are present in Australian pigeons.

3.2.36. Section 13.1.5. Hazard identification conclusion. Industry acknowledges that there is limited conclusive evidence which demonstrates that the three mycoplasmas commonly associated with pigeons cause disease in pigeons. However, Loria et al. (2005) recently published a paper which provided strong (but inconclusive) evidence that the M. columborale was the causative or synergistic agent in the outbreak of respiratory and eye disease suffered by a large number of racing and show pigeons in Italy. Given this more recent information, Biosecurity New Zealand may wish to reconsider the potential impact of pigeon mycoplasma and especially M. columborale on native bird populations.

MAFBNZ response: Loria et al (2005) describe ocular lesions and respiratory distress in pigeons and the recovery of *Mycoplasma columborale* from the eyes of "the majority" of birds showing eye lesions. MAFBNZ acknowledges that the authors of this report concluded that their study *provides strong but not conclusive evidence that M. columborale was the causative or synergistic agent in the present outbreak.*

However, it is also noted that no mycoplasmas were isolated from the lung, spleen, or liver of birds euthanased for necropsy and the authors highlighted that the birds in this outbreak had been subject to confinement stress for two months and were kept at a high stocking density.

Kleven and Ferguson-Noel (2008) recently commented that even though there has been isolation of these organisms form birds showing respiratory signs, and there have been favourable responses to medication, there is no conclusive proof that pigeon mycoplasmas are etiologically involved in naturally occurring respiratory disease of pigeons.

3.2.37. Section 14.1.2 . OIE List. This section states "Salmonella serotypes other than S. Gallinarum-Pullorum are not included in avian section of the OIE lists". Industry notes that whilst

this is true, Section 6 of the Code entitled Veterinary Public Health does address the control of certain other Salmonella serotypes in poultry.

MAFBNZ response: OIE listed diseases are those that are notifiable to the OIE. The criteria for listing diseases are described in Article 1.2.1 of the *Code* and the OIE list of notifiable diseases is given in Article 1.2.3 of the *Code*. The import risk analysis is correct in stating that *Salmonella* serotypes other than *Salmonella* gallinarum-pullorum are not included in avian section of the OIE list.

3.2.38. Section 14.3.1. Options. Option 2 would be the preferred option for the New Zealand Poultry Industry.

MAFBNZ response: Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis

3.2.39. Section 15.3.1. Options. Industry does not support Option 1 as a potential risk mitigation measure for C. burnetti and reiterates earlier concerns about importation of pigeons prior to 1996. Industry would support the inclusion of Option 2 in the development of subsequent Import Health Standards.

MAFBNZ response: Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis

3.2.40. Section 16.2.2. Exposure assessment . Industry agrees that *Argas persicus* does not occur in New Zealand. However, industry notes that the Overseas Market Access Requirements Notification for exporting Aviary Birds to the Cook Islands requires that birds are inspected by an authorised veterinarian and are found to be free of this tick prior to export. Industry therefore queries whether the tick could survive in New Zealand if it were accidentally introduced. As external parasites are considered in Section 21 (External Parasites) Industry suggests that a reference to this section should be included here.

MAFBNZ response: As noted in Section 2 of the draft import risk analysis, the risk analysis does not consider speculative events that could occur in the future, such as the possible establishment of disease vectors due to climate change. MAFBNZ has the flexibility to modify any IHS based on this risk analysis if future events make this appropriate.

3.2.41. Section 17.1.5. Hazard identification conclusions. Industry notes the comment that "several species of haematozoa occur in Australia that have not been described in New Zealand" despite the fact that pigeons entered New Zealand from Australia under minimal restrictions prior to 1996. This seems to support the Industry concerns that importation of birds, without restriction,

does not necessarily mean that the hazard in question is already in New Zealand and therefore does not require further consideration.

MAFBNZ response: The hazard identification conclusion (Section 17.1.5) reflects the example cited where *P. relictum* was introduced into Hawaii resulting in the extinction of several Hawaiian bird species. However, the option evaluation (Section 17.3.1) does propose that since pigeons were imported into New Zealand from a number of countries for almost 150 years up to 1996, it could be considered likely that any haematozoa that may be associated with pigeons in Australia have already been introduced into this country and this position is reflected in Option 1 presented for the management of haematozoa.

3.2.42. Section 17.3.1. Options. Industry does not support the use of *Option 1*. Industry notes that no consideration appears to have been given to the potential control of entry of arthropod parasites which could act as vectors for protozoal parasites, although this is listed as a point for consideration.

MAFBNZ response: Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis.

Options for the management of external parasites are presented in Section 21.3.1 of the draft import risk analysis.

3.2.43. Section 20.3.1. Options. Industry does not support the use of *Option 1*. Industry believes that at a minimum *Option 2* should be implemented, but that this should require quarantining of treated birds in a cleaned premises prior to export.

MAFBNZ response: Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis.

3.2.44. Section 21.3.1. Options. Industry does not support the use of *Option 1*. Industry believes that at a minimum *Option 2* should be implemented, but that this should require quarantining of treated birds in a cleaned and disinfected premises prior to export.

MAFBNZ response: Comments on the suitability of the options presented for risk management will be considered by the Animal Imports and Exports Section of the Border Standards Directorate of MAFBNZ when drafting any import health standards developed from this import risk analysis.

3.3. MICHAEL FLETCHER, HENDERSON RACING PIGEON CLUB

3.3.1. The Henderson Racing Pigeon Club support the submission from 'PIGEON RACING NEW ZEALAND LTD' to allow the importation of live racing pigeons from Australia. If a practical set of health standards can be set, and the birds meet these requirements, we see no reasons why importation could not resume.

MAFBNZ response: Noted.

3.4. GEOFFREY J. STOWELL, PIGEON RACING NEW ZEALAND INCORPORATED

3.4.1. Pigeon Racing New Zealand Inc. (PRNZ) is an organisation, with forty one member clubs, formed with the purpose of serving the interests of racing pigeon fanciers throughout New Zealand. As such our submission represents the views of these people.

MAFBNZ response: Noted**.**

3.4.2. We are optimistic a practical set of Import Health Standards will emerge that will allow the resumption of importation of live pigeons from Australia, a trade that continued for 150 years until 1996 without any obvious adverse effects on New Zealand avifauna. We are also aware that a small number of birds that have become disoriented in long distance races in eastern states of Australia are blown across the Tasman Sea by strong westerlies each year. As racing pigeons are banded with closed rings, there is no doubt as to the origin of these birds.

MAFBNZ response: The history of live pigeon imports from Australia is acknowledged in the introduction of the risk analysis and also forms a component of the consideration of a number of individually identified potential hazards.

3.4.3. As we are not experts in this field we have obtained the services of a recognised Avian Veterinary Scientist, Mr. Neil Christensen. His advice to us is the diseases identified in the risk analysis are either already present in the pigeon population of New Zealand, or that the importation of pigeons from Australia would pose negligible risk of disease introduction if managed correctly.

MAFBNZ response: Noted.

3.4.4. As we are sure you are aware our New Zealand bio-systems are placed at extreme risk by unauthorised or inadvertent introduction of exotic species. Recent examples include didymo, varroa, and rabbit haemorrhagic disease virus. There is a real risk that if the status quo is maintained illegal importation of pigeons will be attempted. PRNZ strongly oppose this activity, but risk would be greatly (increased) if this were to occur.

MAFBNZ response: Noted

3.5. PETER HILL, PLIMMERTON RACING PIGEON CLUB

The matters raised in this submission were closely aligned to those discussed by Pigeon Racing New Zealand Incorporated. Please see the responses to 3.4.1 to 3.4.4 above.

3.6. COLIN WEBSTER, AUCKLAND RACING PIGEON FEDERATION INC.

The matters raised in this submission were closely aligned to those discussed by Pigeon Racing New Zealand Incorporated. Please see the responses to 3.4.1 to 3.4.4 above.

4. Copies of Submissions

4.1. NEIL CHRISTENSEN, AVIVET LTD

Sent: Wednesday, June 24, 2009 1:06 PM
Subject: Import Risk Anlysis: Pigeons (Columba livia) from Australia

Submission on Import Risk Analysis: Pigeons (Columba livia) from Australia

Neil Christensen, Avivet Ltd
RD10 Palmerston North

General Comment

As one of the authors of the IRA, I am generally pleased with the final version after the internal and external review, and I am confident a practical set of Import Health Standards will emerge that will allow the resumption of importation of live pigeons from Australia, a trade that continued for 150 years until 1996 without any obvious adverse effects on New Zealand avifauna. I am informed by racing pigeon fanciers that a small number of birds that have become disoriented in long distance races in eastern states of Australia are blown across the Tasman sea by strong westerlies each year. As racing pigeons are banded with closed rings, there is no doubt as to the origin of these birds.

My main source of disappointment is the dilution of the importance of ensuring that the risks of importation of APMV-1 are adequately controlled by the similar weight given to a number of other pathogens in the IRA, often contrary to the balance of evidence. I believe that by over-emphasising nebulous "risks" in a minor species such as pigeons, New Zealand lays itself open to similar tactics which may be used in far more important trade issues, such as has happened with apple exports to Australia.

Section 9 Birnavirus (IBD)
The conclusion that pigeons carry a non-negligible risk of importation is apparently based on the detection of elements of the genome (not the virus itself) from a single pigeon of indeterminate species from Tanzania, and the detection of 2/144 seropositive rock pigeons in Japan sampled over an 8 year period. Given the acknowledged presence of IBD in Australia for at least 20 years prior to 1996, and the contact between imported pigeons and chickens (the only species in which IBD causes clinical disease), there would have been a reasonable expectation of introduction of Australian types of IBD into New Zealand chickens.

In the case of option 2 (and 3) the AGP antigens mentioned in the OIE recommendations are not widely available anymore, and currently-used ELISA tests recognise the fact that IBD is a disease of chickens and are not suitable for testing sera from pigeons.(see the rigmarole the Australians had to through to validate their duck IBD ELISA). The logical approach is to accept the paucity of evidence regarding IBD in pigeons, and the overwhelming evidence of non-exposure from previous imports of Australian pigeons.

Section 14 Salmonella

In regard to the testing of pigeons, it should be noted that these imports are likely to be of individual racing and breeding birds. Option 1 is suitable for testing of individuals, whilst option 2 is more suitable to breeding flocks. Pigeons should be treated as individuals and all the imported birds tested in pre-export isolation prior to departure.

Section 15 Q fever
The proposal to test pigeon imports runs contrary to common sense given that the consequence assessment indicates that Q fever causes a serious disease in humans not birds, the risk of exposure carried by the hundreds of thousands of New Zealanders who visit Australia each year and migrants returning home is much higher than New Zealand residents will carry from exposure to imported pigeons. Given that the highest risk occupations are those who work in the meat industry, it is likely that New Zealand government officials and meat industry personnel visiting Australian meat plants are exposed to greater risk of infection
than visitors to Australia general.

Section 17 Protozoal blood parasites
There has been little, if any, effort put into examining blood smears from New Zealand pigeons. In Australia, a prominent Victorian pigeon veterinarian examines 2-3 blood smears per day mainly for haematological parameters rather than haemoparasites, and he recalled only one or two haemoparasite positive findings over a five year period. A discussion with an Auckland veterinary pathology laboratory haematologist indicated that he could not recall examining any blood smears from pigeons, whether native, feral or racing pigeons. This situation reflects the New Zealand situation with a number of pigeon-specific pathogens common in other countries - we have never looked for them, and when we do, as occurred with Pigeon Circovirus, we are able to confirm their presence here.

The Auckland laboratory examines a number of blood smears from native birds on behalf of DOC, and finds a small number of smears positive for a range blood parasites, as noted in the IRA. If we look we will probably find a small number of positive smears.

The import health standard should put due weight on our 150 years experience, and occasional ongoing pigeon refugee arrivals and proceed with option 1. Options 2 and 5 would lack sensitivity required for importation purposes. Options 3 and 4 are unwarranted given the history of ongoing imports.

Section 5 Avian paramyxovirus-1

Section 5.2.3 3rd line budgies should read pigeons - how this could have escaped all our spell checks and proofing escapes me.

The fact that pigeon isolates may include pigeon variants (PPMV-1) and typical ND strains introduces a complexity into the situation that we need to be very cautious about, as Australia's status in respect of Newcastle disease is the major disease status change since 1996 when pigeon imports were suspended. 99% of the any risks associated with resumed imports stem from APMV-1 and it is vital that thorough testing be carried out. The numbers of studs likely to be involved in exporting to New Zealand is limited, and given the limited serological surveillance of these studs, a two stage serological testing requirement involving the stud itself and the birds to be exported should be put in place with negative results from both.

I am also informed that there was no cessation of racing during the Australian Newcastle disease outbreak, so they do not regard pigeons as an important potential vector of Newcastle Disease.

Section 7 Avian influenza
Compared to Newcastle disease, the much lesser susceptibility of pigeons to AI virus, and their limited involvement in the disease's spread should be highlighted.

IDEXX have recently introduced an ELISA suitable for use with sera of many bird species (previously the ELISA we have used has been limited to chickens and turkeys). This new test has surveillance potential that can possibly be utilised in the pre-export testing for exposure to AI in these imports.

N.H. Christensen

4.2. MICHAEL BROOKS, POULTRY INDUSTRY ASSOCIATION OF NEW ZEALAND AND EGG PRODUCERS FEDERATION OF NEW ZEALAND

Import Risk Analysis for Pigeons (*Columba livia*) from Australia

The Poultry Industry Association of New Zealand (PIANZ), contactable at the above address, represents almost all except one of the poultry breeding and processing companies in New Zealand. Similarly, the Egg Producers Federation of New Zealand (EPF) represents all commercial egg producers in New Zealand. The PIANZ and EPF Veterinary Technical Committee has reviewed the Import Risk Analysis for the importation of pigeons (*Columba livia*) from Australia (subsequently referred to as the IRA). The New Zealand Poultry Industry (including PIANZ and the EPF) subsequently notes the following points in this regard.

Section 1 Introduction

The New Zealand Poultry Industry notes that this risk analysis deals with the importation of live pigeons from Australia. Industry notes that traditionally import health standards which allow for the importation of avian species into New Zealand have been based on the importation of eggs for hatching rather than live birds (e.g. chicken hatching eggs and passerine hatching eggs), as the importation of hatching eggs poses less risk of introduction of potential hazards than the importation of live birds. Industry acknowledges that there are instances where the importation of eggs of avian species may be impossible (or extremely difficult) and thus importation of live birds must be considered. However, where this is the case, Industry believes that the reasons for this deviation must be detailed in the IRA for the purposes of transparency and clarification. This will prevent potential importers of other bird species mistakenly thinking that importation of live birds is routinely considered by Biosecurity New Zealand.

Section 3 Commodity definition

Industry notes that **Section 2 (Scope)** refers to "live domestic pigeons" and requests that the commodity definition also include reference to the fact that the birds are live, for purposes of clarification and consistency.

Section 4.1 Preliminary Hazard list

Industry notes the statement (supported by the reference OIE 2007), that highly pathogenic avian influenza (HPAI) does not occur in Australia. The New Zealand Poultry Industry acknowledges that HPAI does not currently occur in poultry in Australia and agrees that the reference supports this. However, industry notes that the reporting requirements for avian influenza apply only to poultry, and the definition of poultry listed in the OIE Terrestrial Animal Health Code (the Code) chapter on avian influenza (which can be found at http://www.oie.int/eng/normes/mcode/en_chapitre_1.10.4.htm#rubrique_influenza_aviaire) specifically excludes pigeons that are not kept for meat or egg production. The reference provided therefore cannot be used in support of a conclusion that HPAI is not present in Australia in birds other than that defined as poultry in the avian influenza chapter of the Code.

Similarly, Industry notes the statement (supported by the reference OIE 2007), that virulent Newcastle disease does not occur in Australia. Industry acknowledges that virulent Newcastle disease does not currently occur in poultry in Australia and agrees that the reference supports this. However, industry notes that, as for avian influenza, the reporting requirements for Newcastle disease apply only to poultry, and the definition of poultry listed in the OIE

Terrestrial Animal Health Code (the Code) chapter on Newcastle disease (see http://www.oie.int/eng/normes/mcode/en_chapitre_1.10.13.htm) also excludes pigeons that are not kept for meat or egg production. The reference provided therefore cannot be used in support of a conclusion that virulent Newcastle disease is not present in Australia in birds other than that defined as poultry in the Newcastle disease chapter of the Code.

Industry therefore believes that alternative references which support the conclusion that both HPAI and virulent Newcastle disease do not occur in avian species in Australia be included in the preliminary hazard list or alternatively "requires further consideration" should marked as "yes" for both HPAI and virulent Newcastle disease strains and subsequent discussion included. Industry notes that virulent Newcastle disease strains are given some consideration in **Section 5 (Avian Paramyxoviruses)**.

Infectious bronchitis virus and group 3 coronaviruses are listed as not "recorded in pigeons" with the reference "Cavanagh & Naqi, 2003". However, Barr *et al*. (1988) as well as other authors cited in the IRA have isolated "IBV, or viruses which have high sequence homology with IBV" from healthy and diseased pigeons. Industry suggests therefore that the infectious bronchitis viruses and group 3 coronaviruses should be listed as having been reported in pigeons in the preliminary hazard list.
In a recent submission made to Biosecurity New Zealand in regards to the Import Risk Analysis for Budgerigars, Industry highlighted a concern that where a specific avian species is not listed in the natural and experimental hosts, it may be concluded on occasion that the disease does not occur in the species in question. This is particularly true when the species under consideration is not of significant economic value to industry or a large sector of the general population, e.g. as is the case for budgerigars and pigeons. Industry notes that the review of submissions relating to the Import Risk Analysis for budgerigars has either not yet been completed or has not yet been placed on the Biosecurity New Zealand website and thus recognises that this concern may have been addressed in that response.

However, given that Industry is unaware of Biosecurity New Zealand's response to this concern, Industry would like to reiterate its concern in this submission. As stated in our previous submission, industry does not believe it is safe to make an assumption that a disease is absent in any given country / species simply on the basis of the absence of reports, as it is possible that this simply reflects the absence of either appropriate surveys or the absence of thorough or conclusive investigation. Alternatively, where thorough investigation has been carried out, it is possible that the presence of the disease has simply not been reported in the literature. Industry suggests therefore that where no specific evidence is available to support the conclusion that a disease does not occur in any given species, in the development of an IRA, Biosecurity New Zealand should err on the side of caution and require further consideration for the organism in question, unless there is sufficient additional information which supports a conclusion that the disease would not occur in the species in question, in which case this should be noted in the IRA. Industry believes that including this clarification in the IRA would help to further improve the transparency of the import risk analysis and support any decisions made by Biosecurity New Zealand when developing an appropriate Import Health Standard.

The points raised above apply, in this IRA to Orbivirus and *Bordetella avium*, both of which are considered present in Australia but not in New Zealand.

Further inconsistencies in the identification of hazards are observed for

- Papilloma virus the occurrence in Australia of which and recorded in pigeons are both noted as "Unknown"
- the occurrence of Australian Arboviruses in pigeons which is listed as "??"
- the occurrence in both New Zealand and Australia of Rotavirus which is listed as "?"
- the occurrence in pigeons of Borrelia anserina which is listed as "no information"
- the occurrence of exotic mycoses in Australia and in pigeons which are both listed as "?".

Industry acknowledges that all of the hazards listed above are given further consideration in the IRA. However, it is unclear from the information contained in the risk analysis why these hazards on which there appear to be little information are treated differently to those such as Orbivirus and *Bordetella avium* which are not considered to require further consideration.

Industry agrees with the conclusion that the following diseases do not require further consideration – as the disease status, in respect to these diseases, of Australia and New Zealand are the same.

- Pneumovirus (turkey rhinotracheitis, swollen head)
- Duck virus enteritis virus
- Marek's disease virus
- Psittacine beak and feather disease virus
- Polyoma virus
- Louping ill virus
- Nairovirus
- Borna disease virus
- Avian leucosis virus
- Transmissible spongiform encephalopathy
- *Salmonella* Arizonae
- *Pasteurella gallinarum*
- *Mycobacterium tuberculosis*
- *Francisella tularensis*
- *Megabacterium* spp.

However, industry suggests that listing the occurrence in pigeons of these hazards as "No*" is somewhat confusing. As industry noted above, we believe that the IRA should err on the side of caution and provide additional information where necessary to support the exclusion of any hazard from the hazard list. In the case of these hazards though, the occurrence of the disease in pigeons is irrelevant when pigeons are imported from Australia. The clarity of the IRA may be improved by including an additional category which clearly illustrates this.

Industry notes that there is a lack of references to support the conclusion that the following diseases have not been recorded in pigeons and that no reference to the foot note suggesting extensive reviews of the literature have been undertaken. Industry suggests that this is inconsistent and should be amended (taking into account the points raised above) to ensure clarity of the document. The hazards are:

- Derzsy's disease of geese
- Duck hepatitis 1 & 3 (DVH 1 & 3) virus
- Astrovirus (turkey astrovirus)
- Astrovirus (duck hepatitis complex DVH2)
- *Ehrlichia ruminantium*

Pigeon circovirus is listed in **Table 1** (**Section 4.1 Preliminary Hazard List** on page 5) as present in New Zealand. However, Industry notes that the recently released Import Risk Analysis

for the importation of budgerigars from the United Kingdom listed this disease as absent from New Zealand. This IRA is available at:

www.biosecurity.govt.nz/files/biosec/consult/draft-ra-budgerigars-from-the-united-kingdom.pdf

Industry also notes that the reference given in the current IRA, to support the conclusion that the disease is present in New Zealand, relates to personal communication between one of the authors and one of the peer reviewers of the current IRA. Industry does not dispute the expertise of either the author of the email or the recipient. However, it is impossible for the Industry or any other interested party to determine the contents of the email or to critically evaluate the conclusions drawn from information contained in the email. Industry strongly believes that where peer reviewed or otherwise published information is not available to support the conclusion that a hazard is present in New Zealand, the hazard should be given further consideration. Information such as that contained in the personal communication can then be presented and conclusions about the risk to New Zealand drawn. This would increase the transparency of the IRA.

Industry also notes that the IRA for budgerigars from the United Kingdom states that Rotavirus is present in New Zealand, but that the current IRA considers lists the presence of Rotavirus in New Zealand as "?". This is confusing and industry suggests that the presence of this disease in New Zealand should be reviewed for both the current IRA and the IRA for budgerigars from the United Kingdom.

Industry also notes that this section does not consider antibiotic resistant strains of bacteria which may be present overseas but which are not present in New Zealand. The Industry would like to see these considered in the draft IRA.

Section 5.2.1 Entry assessment

The first paragraph of this section states "since there have been no reports of PPMV-1 in Australia, the entry assessments for PPMV-1 is negligible". As noted earlier, Industry believes that in the absence of information a precautionary approach should be taken. In this case, as the signs of the disease would be noticeable (with an up to 90% mortality rate in young pigeons according to Greenacre (2005)), lack of reports would suggest that the disease is not present in Australia. Industry believes that this should be noted in the IRA for clarity and transparency.

Section 5.2.3 Consequence assessment

Industry notes that this section refers to "budgies" and suggests that this should be amended to "pigeons".

Section 5.3.1 Options

Industry is in favour of the application of at least *Option 2* proposed in **Section 5.3.1 (Options)**. However, industry would ideally prefer the application of *Option 4* as this would be consistent with the requirement for importers of poultry hatching eggs to import through a quarantine facility despite the fact that eggs are sourced from flocks which have been tested free of Newcastle disease.

Section 6 Other Avian Paramyxoviruses

Industry acknowledges that when developing IRAs for commodities such as pigeons, peer reviewed information to support the development of the IRA may not be available. In such cases, Industry realises that non peer reviewed information or expert knowledge may need to be used. However, in these instances, Industry requests that more detail than simply "Buckley D (2007). Personal communication. AFFA." is included. The information currently provide gives no reassurance to any stakeholders or interested parties that the person referenced is an expert in the

field or has an appropriate knowledge of the issue in question, simply because it is impossible to identify who the person is or the kind of information which they have provided.

The fifth paragraph of this section states "APMV-7 has not been reported in Australia and is therefore not a potential hazard". However, Marlier and Vindevogel (2005) reported that APMV-7 viruses appear to be apathogenic and industry therefore notes that the hazard may be present in Australia but has not yet been identified. Industry also notes that an avian paramyxovirus serotype 7 has been isolated from ostriches (Woolcock *et al*., 2006) and turkeys (Saif *et al*., 1997). Industry therefore requests that the hazard classification is reviewed. As noted earlier, Industry believes that in the absence of information a precautionary approach should be taken, particularly where there is a potential risk to New Zealand native birds.

Section 7.1.3 New Zealand status
The penultimate sentence of this section states "A recent survey found no evidence of active infection with NAI viruses in 167 farms". For purposes of clarity, this should be changed to "A recent survey found no evidence of active infection with NAI viruses in 167 poultry farms". Industry also notes subsequent to this, additional surveys have been carried out on turkeys and other poultry species.

Section 7.1.5 Hazard identification conclusion
The final sentence of the first paragraph in **Section 7.1.4 (Epidemiology)** states "For the purposes of this risk analysis all influenza A strains found in birds presented for export to New Zealand will be considered". However, the final sentence of **Section 7.1.5 (Hazard identification conclusion)** only refers to NAI. Industry suggests that, in line with **Section 7.1.4**, **Section 7.1.5** should also consider LPAI.

Section 7.2.1 Entry assessment
This section deals only with the entry assessment for LPAI viruses. Industry suggests that the entry assessment should deal with all influenza A strains as stated in **Section 7.1.4 (Epidemiology)**.

Section 7.2.3 Consequence assessment
The final paragraph of this section states "It is concluded that the consequence assessment for LPAI strains of virus is considered to be non-negligible for poultry, native birds and human health". However, the final sentence of the first paragraph in **Section 7.1.4 (Epidemiology)** states "For the purposes of this risk analysis all influenza A strains found in birds presented for export to New Zealand will be considered". Industry therefore suggests that the consequence assessment for notifiable strains of avian influenza is also detailed in the **Section 7.2.3**.

Section 7.3.1 Options
Ideally Industry would like to see the application of *Option 4* suggested in this section, as this would be in line with the requirements faced by importers of poultry hatching eggs. Industry believes that the minimum level of risk mitigation which can be in place should be that suggested in *Option 2*.

Section 8.1.3 New Zealand status
Industry agrees with the statement that infectious bronchitis virus is endemic in New Zealand. However, industry believes that this section should detail that only certain strains of the virus occur in New Zealand. This is particularly important as the strains of infectious bronchitis prevalent in New Zealand are considerably less virulent than the strains found in other countries

around the world and introduction of more virulent strains would be likely to have a dramatic effect on the performance of New Zealand poultry and subsequently industry profitability.

Industry notes that infectious bronchitis virus (exotic strains) is listed as an unwanted organism on the unwanted organisms list managed by Biosecurity New Zealand.

Industry notes the statement "the status of *pigeon coronavirus* is not known". Industry believes that further information regarding the potential presence or absence of the disease in New Zealand should be included here. For example, has an extensive review of the literature being conducted with no reports of surveys having been carried out or have all the surveys which have been carried out not found any evidence of the hazard?

Section 8.1.4 Epidemiology

Industry notes the statement "There is no indication from the sparse literature on coronaviruses that they cause economically important diseases in pigeons". Whilst industry acknowledges that the viruses may not cause economically important diseases in pigeons, the point of conducting a risk analysis is not only to identify the risk to the New Zealand pigeon population, but also to identify any risk to other avian species and to New Zealand Inc.

Section 8.1.5 Hazard identification conclusion

Industry strongly disagrees with the conclusion that "there is insufficient evidence to conclude that Group 3 coronaviruses should be classified as potential hazards in live pigeons from Australia". Industry believes that this contradicts the statement made in the first sentence of this section: "Although IBV is endemic in New Zealand, some strains of the virus do not occur here". Industry believes that Biosecurity New Zealand (and the report authors) has presented evidence in **Section 8.1.4 (Epidemiology)** that suggests pigeons are affected by infectious bronchitis virus and may act as carriers. In addition, the strains of infectious bronchitis virus present in Australia are different to those found in New Zealand and thus further consideration of the risk associated with the importation of live pigeons into New Zealand is warranted. Industry believes that the risk of introduction of new strains of infectious bronchitis into New Zealand must be considered to be non-negligible and further consideration must be given to risk assessment and risk management for this hazard.

The somewhat controversial statement that "since pigeons were imported into New Zealand from a number of countries for almost 150 years up to 1996, it could be considered likely that coronaviruses that are associated with pigeons in Australia have already been introduced into this country" almost seems to suggest that there is no need to conduct a risk analysis for any commodity which has previously been imported into New Zealand in the absence of an import risk analysis (i.e. prior to 1996). Industry doubts that this is a position which Biosecurity New Zealand supports, and therefore, this statement should be removed.

Section 9.3.1 Options

Bullet point 4 in this section states "since imported pigeons will have little contact with poultry, the likelihood of transmission from pigeons is low". Industry strongly disagrees with this statement as racing pigeons may be imported under subsequent import health standards arising from this IRA and it would be impossible to determine exactly what contact these birds may have with, for example free range or wild poultry. In addition, as the virus is "extremely resistant to the external environment" the potential for indirect contact between imported pigeons and New Zealand poultry must be considered.

The potential economic consequences of an outbreak of infectious bursal disease on the New Zealand poultry industry would be severe and far reaching. Consequently, industry is strongly opposed to *Option 1*. Industry suggests that although *Option 2* would require extensive testing, the cost associated with this would be considerably less than that associated with any potential outbreak of infectious bursal disease and consequently industry would support the implementation of *Option 2.* Industry believes that should a single bird in the consignment test positive, the whole consignment should be rejected. In addition, those birds intended for export should be quarantined prior to export and at least for the duration of the testing period and until exported to New Zealand.

Section 11.1.4 Epidemiology

Industry acknowledges the lack of published information on the prevalence of various Australian arboviruses in pigeons. However, industry questions whether this information is unavailable simply because the appropriate surveys on pigeons have not been carried out or if it is unavailable because the pigeons are not a maintenance host for these viruses. Industry believes that further discussion around Sindbis virus (for which the maintenance host is birds), Murray Valley encephalitis virus (which has been isolated from chickens and for which water birds are maintenance hosts) and Kunjin virus (the maintenance host for which are probably water birds) is warranted.

Section 12.1.4 Epidemiology

The final paragraph of this section states "However, clinical disease was not described in these papers". Industry disagrees with this as the paper by Gough *et al*. (1992) refers to birds which suffered from diarrhoea, lethargy and loss of appetite.

Section 12.1.5 Hazard identification conclusion

Industry reiterates earlier concerns regarding the importation of pigeons prior to 1996.

Industry also notes the statement that "there is no evidence that pigeons are a source of infection for poultry". However, Industry suggests that the potential impact of the importation of Australian pigeons on the native bird population of New Zealand is unknown and no attempt has been made in the document to quantify this.

Industry therefore suggests that the hazard identification conclusion should be reviewed with consideration of native birds.

Section 13.1.5 Hazard identification conclusion

Industry acknowledges that there is limited conclusive evidence which demonstrates that the three mycoplasmas commonly associated with pigeons cause disease in pigeons. However, Loria *et al*. (2005) recently published a paper which provided strong (but inconclusive) evidence that the *M. columborale* was the causative or synergistic agent in the outbreak of respiratory and eye disease suffered by a large number of racing and show pigeons in Italy. Given this more recent information, Biosecurity New Zealand may wish to reconsider the potential impact of pigeon mycoplasma and especially *M. columborale* on native bird populations.

Section 14.1.2 OIE List

This section states "*Salmonella* serotypes other than *S.* Gallinarum-Pullorum are not included in avian section of the OIE lists". Industry notes that whilst this is true, Section 6 of the Code entitled Veterinary Public Health does address the control of certain other *Salmonella* serotypes in poultry.

Section 14.3.1 Options
Option 2 would be the preferred option for the New Zealand Poultry Industry.

Section 15.3.1 Options
Industry does not support *Option 1* as a potential risk mitigation measure for *C. burnetti* and reiterates earlier concerns about importation of pigeons prior to 1996.

Industry would support the inclusion of *Option 2* in the development of subsequent Import Health Standards.

Section 16.2.2 Exposure assessment
Industry agrees that *Argas persicus* does not occur in New Zealand. However, industry notes that the Overseas Market Access Requirements Notification for exporting Aviary Birds to the Cook Islands (http://www.biosecurity.govt.nz/exports/animals/omars/ biraviec.cki.htm) requires that birds are inspected by an authorised veterinarian and are found to be free of this tick prior to export.

Industry therefore queries whether the tick could survive in New Zealand if it were accidentally introduced. As external parasites are considered in **Section 21 (External Parasites)** Industry suggests that a reference to this section should be included here.

Section 17.1.5 Hazard identification conclusions
Industry notes the comment that "several species of haematozoa occur in Australia that have not been described in New Zealand" despite the fact that pigeons entered New Zealand from Australia under minimal restrictions prior to 1996. This seems to support the Industry concerns that importation of birds, without restriction, does not necessarily mean that the hazard in question is already in New Zealand and therefore does not require further consideration.

Section 17.3.1 Options
Industry does not support the use of *Option 1*.

Industry notes that no consideration appears to have been given to the potential control of entry of arthropod parasites which could act as vectors for protozoal parasites, although this is listed as a point for consideration.

Section 20.3.1 Options
Industry does not support the use of *Option 1*.

Industry believes that at a minimum *Option 2* should be implemented, but that this should require quarantining of treated birds in a cleaned premises prior to export.

Section 21.3.1 Options
Industry does not support the use of *Option 1*.

Industry believes that at a minimum *Option 2* should be implemented, but that this should require quarantining of treated birds in a cleaned and disinfected premises prior to export.

Thank you for the opportunity to comment on the Import Risk Analysis. Please do not hesitate to contact our offices should you have any questions.

Kind regards,

Michael Brooks
Executive Director

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4.3. MICHAEL FLETCHER, HENDERSON RACING PIGEON CLUB

Submission on Import Risk Analysis: Pigeons (Columba livia) from Australia.

The Henderson Racing Pigeon Club support the submission from 'PIGEON RACING NEW ZEALAND LTD' to allow the importation of live racing pigeons from Australia.
If a practical set of health standards can be set, and the birds meet these requirements, we see no reasons why importation could not resume.

Yours respectively: Michael Fletcher
(Secretary: Henderson Racing Pigeon Club)

4.4. GEOFFREY J. STOWELL, PIGEON RACING NEW ZEALAND INCORPORATED

Submission on Import Risk Analysis: Pigeons (Columba livia) from Australia

General Comment

Pigeon Racing New Zealand Inc. (PRNZ) is an organisation, with forty one member clubs, formed with the purpose of serving the interests of racing pigeon fanciers throughout New Zealand. As such our submission represents the views of these people.

We are optimistic a practical set of Import Health Standards will emerge that will allow the resumption of importation of live pigeons from Australia, a trade that continued for 150 years until 1996 without any obvious adverse effects on New Zealand avifauna.

We are also aware that a small number of birds that have become disoriented in long distance races in eastern states of Australia are blown across the Tasman Sea by strong westerlies each year. As racing pigeons are banded with closed rings, there is no doubt as to the origin of these birds.

Risk of Introduction Avian Diseases and Parasites not Currently Present in New Zealand

As we are not experts in this field we have obtained the services of a recognised Avian Veterinary Scientist, Mr. Neil Christensen. His advice to us is the diseases identified in the risk analysis are either already present in the pigeon population of New Zealand, or that the importation of pigeons from Australia would pose negligible risk of disease introduction if managed correctly

Mr. Christensen has submitted his own submission for your consideration.

Risk Associated with not Allowing Pigeon Importation

As we are sure you are aware our New Zealand bio-systems are placed at extreme risk by unauthorised or inadvertent introduction of exotic species. Recent examples include didymo, varroa, and rabbit haemorrhagic disease virus.

There is a real risk that if the status quo is maintained illegal importation of pigeons will be attempted. PRNZ strongly oppose this activity, but risk would be greatly if this

were to occur.

Geoffrey J. Stowell.

Administration Manager.

4.5. PETER HILL, PLIMMERTON RACING PIGEON CLUB

Submission on Import Risk Analysis: Pigeons (Columba livia) from Australia

General Comment
Plimmerton Racing Club is an organisation formed to foster pigeon racing in the Plimmerton - Kapiti Coast district. As such our members have a vital interest in the importation of pigeons from Australia.

We are optimistic a practical set of Import Health Standards will emerge that will allow the resumption of importation of live pigeons from Australia, a trade that continued for 150 years until 1996 without any obvious adverse effects on New Zealand avifauna.

We are also aware that a small number of birds that have become disoriented in long distance races in eastern states of Australia are blown across the Tasman Sea by strong westerly wind each year. As racing pigeons are banded with closed rings, there is no doubt as to the origin of these birds.

Risk of Introduction Avian Diseases and Parasites not Currently Present in New Zealand
As we are not experts in this field we have obtained the services of a recognised Avian Veterinary Scientist, Mr. Neil Christensen. His advice to us is the diseases identified in the risk analysis are either already present in the pigeon population of New Zealand, or that the importation of pigeons from Australia would pose negligible risk of disease introduction if managed correctly Mr. Christensen has submitted his own submission for your consideration.

Risk Associated with not Allowing Pigeon Importation
As we are sure you aware our New Zealand bio-systems are placed at extreme risk by unauthorised or inadvertent introduction of exotic species. Recent examples include didymo, varroa, and rabbit haemorrhagic disease virus.

There is a real risk that if the status quo is maintained illegal importation of pigeons will be attempted. PRNZ strongly opposes this activity, but risk would be greatly increased if this were to occur.

Peter Hill
President,
Plimmerton Racing Pigeon Club

4.6. COLIN WEBSTER, AUCKLAND RACING PIGEON FEDERATION INC.

Submission on Import Risk Analysis: Pigeons (Columba livia) from Australia

General Comment

Auckland Racing Pigeon Federation Inc. (ARPF), is an organisation formed with the purpose of serving the interests of racing pigeon fanciers in the greater Auckland region. As such our submission represents the views of these people.

We are optimistic a practical set of Import Health Standards will emerge that will allow the resumption of importation of live pigeons from Australia, a trade that continued for 150 years until 1996 without any obvious adverse effects on New Zealand avifauna.

We are also aware that a small number of birds that have become disoriented in long distance races in eastern states of Australia are blown across the Tasman Sea by strong westerly wind each year. As racing pigeons are banded with closed rings, there is no doubt as to the origin of these birds.

Risk of Introduction Avian Diseases and Parasites not Currently Present in New Zealand

As we are not experts in this field we obtain the services of recognised Avian Veterinary Scientists, There advice to us is the diseases identified in the risk analysis are either already present in the pigeon population of New Zealand, or that the importation of pigeons from Australia would pose negligible risk of disease introduction if managed correctly

Risk Associated with not Allowing Pigeon Importation

As we are sure you aware our New Zealand bio-systems are placed at extreme risk by unauthorised or inadvertent introduction of exotic species. Recent examples include didymo, varroa, and rabbit haemorrhagic disease virus.

There is a real risk that if the status quo is maintained illegal importation of pigeons will be attempted.

ARPF strongly opposes this activity, but risk would be greatly increased if this were to occur.

We are looking forward to hearing from you
Yours faithfully

Colin Webster

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