



**Egg Producers Federation
of New Zealand (Inc)**

High Pathogenicity Avian Influenza United Kingdom Study Tour Report

Prepared in partnership with Biosecurity New Zealand and New Zealand Poultry Industry Representatives

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1 Key Learnings

- The High Pathogenicity Avian Influenza (HPAI) United Kingdom (UK) Study Tour exceeded expectations with a high level of engagement, long hours, and visits to several groups and people over five days. There was good access to UK senior key decision makers and meetings with farmers and technical subject matter experts (SMEs).
- Our international partners were incredibly supportive and open with information and knowledge – both in the UK and Australia (AU).
- HPAI H5N1 Clade 2.3.4.4b is the wildlife-adapted strain, which differs from the 2024 situation in AU, where LPAI has mutated into HPAI. This has resulted in differences in the respective preparedness and response plans and actions.
- HPAI is not a food safety issue, and in the UK, there has been no drop in consumption through consistent and early messaging from the relevant authorities. There are no known human cases resulting from the consumption of products.
- MPI working with industry will deliver better outcomes for the country. We are all in this together.
- Investing in preparedness now will pay dividends in our ability to withstand an incursion. While we have identified work to do, we are on the right track. Preparedness includes crisis management and business continuity plans.
- Based on firsthand experiences in the UK and AU, the most significant activities to decrease and mitigate risk are strong on-farm biosecurity and preventing water ingress into sheds.
- Farm zoning was observed on all sites, including outer and inner perimeters around the shed (the shed is a high-care zone with a hard inner layer).
- Consistency of messaging at every level is critical and results in one source of truth.
- Consider mental health and isolation in rural communities, farmers, and all parties involved in the response.

2 Key Daily Outtakes

2.1 DAY ONE

2.1.1 Meeting 1: MPI & Industry Overview

2.1.1.1 Introduction – Mary Van Andel

Concept HPAI 1.0 (LPAI - Australian experience) vs HPAI 2.0 (UK H5 NX, wildlife - adapted strain)

The objectives of any response must include the following priorities:

1. Minimise impacts on Export markets.
2. Minimise impacts on domestic (vs export) supply.
3. Minimise Human health impacts (Ministry of Health (MOH) leading).

4. Minimise impacts on Biodiversity (Department of Conservation (DOC) leading).

Eradication from wild birds is not feasible. However, commercial poultry freedom from HPAI can be achieved.

The World Organisation for Animal Health (WOAH) provides guidelines for freedom declarations based on poultry being free of HPAI (however, WOAH has a definition of poultry that involves non-commercial poultry. For this reason, objective one is best served by negotiating bilaterally with individual trading partners rather than reverting to multilateral (WOAH) rules.

2.1.1.2 Group Discussion

- Response leadership will be local, and Logan McLean will be the Response Manager in an HPAI biosecurity response structure.
- Need to draft contingency plan and run mock incursions.
- At present, industry has the opportunity to influence the framework.
- Preparedness means that the Regulator and Industry share a standard view of how a response would look. That standard view is documented and consulted on so more people can understand it (we collectively share that view with other people in the industry and support areas). Then, we can implement those plans, update the plans, and repeat the planning process as needed.

2.1.1.3 AU visit – Mike Fleming and Logan McLean

- AusVet plan based on HPAI 1.0. They will need to modify if they ever get HPAI 2.0.
- Not a food safety risk – no need to recall eggs.
- Depopulation, Disposal, and Disinfection was a considerable cost. Disposal by composting for litter, eggs, and feed. Burial for birds (on one farm).
- Contractor preparedness to support programme essential.
- Asbestos impact on cost/ time.
- If one shed is affected, all the sheds on the farm will likely go.
- Backyard domestic poultry fomites via wind/ fog (plume modelling).
- Larger operators impacted due to stocking density/ bird proximity.
- Need to ensure a balance between control/ risk.
- Blanket zoning with a 3 km zone.
- Consequences of being in the zone.
- Higher risk of biosecurity requires permitting.
- Feed trucks not permitted if biosecurity is not right - truck wash on and off the single farm.
- Procedures are auditable till depopulation, then compost.

2.1.2 Meeting 2: DEFRA & APHA

2.1.2.1 Introduction - Christine Middlemiss and Gordon Hickman

H5NX is starting to think of preparedness for all the H5 bird flu in this way, as each season can bring some uniqueness as the viruses evolve. H5N1, a virulent, wildlife-adapted strain, has dominated over the past few years, but some variants exist. If signs of infection were found, total depopulation of an entire farm was undertaken.

The 2020/ 2021/ 2022 UK poultry outbreak was linked to migratory pathways because commercial poultry sites are near the migratory birds' landing sites in Norfolk. Norfolk was at the epicentre of the latest outbreak, which impacted coastal areas.

Migratory hotspots and contact with wild birds rather than local spread; however, gulls were linked to disease spread from migratory landing sites on shore to poultry establishments due to their shore-inland-shore feeding movement patterns. Before the outbreak, it was common for gulls to feed in fields or inland areas close to commercial poultry. Defra indicated most incursions into poultry sheds were linked to a single point of wild bird contact or contamination. There were almost no cases of lateral spread between the sheds. Eight million birds were slaughtered over the two recent outbreaks. The virus was first found in wild birds before any commercial farms. Turkeys were severely impacted due to less biosecurity at the farms due to seasonal growing practices. Turkeys are more susceptible to the virus and have a high mortality rate. Backyard flocks were found to act as sentinels for wild birds. Seasonal peaks with an “over-summering” phenomenon are now evident in wild birds. Previously, the disease was seasonal. In 2023, the number of poultry cases in the migratory season decreased dramatically. This is possible as wild bird populations develop endemic stability and biosecurity improvements are made on farms.

Biosecurity: Infection comes with the introduction of items into the shed. In addition to farm-level biosecurity, there needs to be a focus on a “wall” around each shed/ barrier biosecurity. Wild bird material can be moved into the shed, which was shown as a critical transference route. The impact of weather on biosecurity is a consideration, with water ingress being a key risk factor for poultry shed incursion (flooding, rainwater from the roof, external cleaning water).

Indicator species: Wild bird surveillance is reliant on public reporting. Defra published an online map/ public reporting system where public members could submit a report online and trace their cases using a unique reference number. This was reported as a very efficient public communication tool. However, not all reports progressed to testing, as the criteria were assessed on a case-by-case basis by the Epidemiological team.

Poultry: Chickens are symptomatic, and if infected with HPAI, it is evident in most cases. Therefore, Defra officials could clear the flock/ shed/ farm based on a physical inspection. Ducks are asymptomatic carriers and, in most cases, show no signs of infection. Therefore, Defra clearance for ducks relied on blood testing to detect the disease and a veterinary inspection before movement. Ducks could be considered a dangerous vector for the poultry and egg-laying sectors.

Mammals: There were no HPAI detections in mammalian pets (e.g., cats eating dead birds), although pet birds (including but not limited to pet chickens) have been affected. Some zoo/ wild mammals have been affected; for example, 10/15 bush dogs were tested HPAI positive retrospectively.

Zoning: The rationale for what is being achieved by using this biosecurity response tool should be further explored. UK zones were based on the EU trade requirements. UK blanket zoning did not see horizontal spread. Foot patrols identified no cases in the 3km zones, where ~97% of cases were identified by passive surveillance (i.e., report cases). The remaining ~2% of cases were identified because of tracing activity.

Housing Orders: A mandatory housing order triggered a 16-week derogation; farmers who undertook voluntary housing did meet the derogation standards, and therefore, no compensation was forthcoming. The UK industry is asking for a review of the 16-week limit and to link it to the time of the Housing Order, as initially, no exit strategy was formulated.

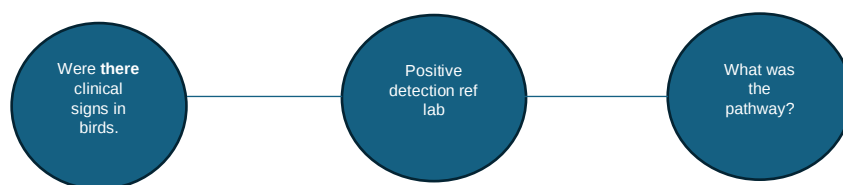
Integrated Emergency Management Principles:

- UK = Understand/ Prevent/Detect/ Respond.
- NZ = Keep out/ detect early/ stop it spreading/ eliminate or control.

Preparedness: it is proposed that the surveillance approach should be tiered. Before an incursion into New Zealand, different surveillance methods and tools are needed to determine what will be required once the disease is present in wildlife and again if the disease starts moving from wildlife to poultry. What we do before we find something vs after will be different. A core group of industry stakeholders needs mock exercises to be undertaken in preparation.

Suspect Incursion: the basic epidemiological premise of meeting a case definition for identifying the first case in the country:

3-legged stool for a case definition. 1. Positive test. 2. Clinical signs in the bird 3. Risk pathway is present



During an outbreak, the UK placed movement restrictions on the under-suspicion farm. This occurred immediately over the phone, with no movements on or off the farm. An online permit system regulated all movements. Defra would permit feed movements due to welfare concerns, but derogations must be submitted to ensure the farm had sufficient biosecurity. Defra approved controls to get trucks off the farm.

Outbreak Approach/ Timeline:

- Suspicion of detection, lockdown farm, serve notice.
- Movement restrictions.
- Positive PCR confirmed the initial assessment of clinical signs. A reference lab was used. Discourage the use of independent labs for testing.
- Everything is evidence-based and risk-assessed.
- CVO case conference. Amber telecom government only, confirmation roles and responsibilities sorted, multi-agency response.
- Speak to the industry as soon as a positive result is confirmed.
- Incursion declaration.
- Start traceback.

2.1.2.2 Trade Measures and Regionalisation – Peter Gray and Miguel

WTO SPS Agreement/ WOAH Terrestrial Code/ Export controls outside/ Export certification

Pillars of Trade:

Standards	Trust	Transparency
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WOAH Law Disease control	Disease control Import controls Export certs audit	Accreditation Reporting Review
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UK Baseline approach with disease control zones applied per WOAHPoultry definition: 3km protection zone (PZ) and 10 km surveillance zone (SZ). Most trading partners now accept that the disease control zones are the same as those referenced in the code chapter.

An interactive map showing zones, AI hotspots, and locations was vital to building trust and the most visible way to communicate with trading partners about the disease control zones.

An interactive map/ case finder on a government website, which was separate for poultry and wildlife, was found to help manage media/ public enquiries.

Compartment scheme - key to managing export links and export of Chicken Hatching eggs. Breeding companies have invested in high levels of biosecurity. Even so, some compartments were impacted and lost certification. Both compartments experienced incursions. Consideration is now being given to compartments that are site-specific rather than company-specific.

The export priorities for the New Zealand industry (breeders, broilers, eggs) are a crucial outcome of the trip for further work, which the industry will liaise with key MPI export colleagues. It is recommended that the industry focus on amendments to certification rather than on WOAHPoultry freedom clauses.

2.1.2.3 Wild Bird Surveillance and Public Reporting – Dr Lara Harrup

- Seasonal risk with migratory birds. In some cases, 20%-40% of breeding populations are knocked out.
- AI is not notifiable in wild birds and is reportable in England only.
- There is a natural transmission process in wild birds, and the UK are not trying to control the spread.
- The UK government does not intervene in sick wild birds unless these are in wildlife rehabilitation centres, hospitals or zoos.
- The UK government set up registration of captive bird populations in sanctuaries, wildlife centres, hospitals, etc
- An online reporting of dead birds was set up to address the high number of cases being called in by the public. The UK needed processes and call centre training to deal with the volume of calls. Posters/ signage and social media were required to encourage reporting, and an interactive map showed public cases in their regions (enhanced passive surveillance)
- Warning and fencing controls were implemented for wild bird management in public areas. Clear messaging was needed on managing bird feeders in backyards, disposing of dead birds from backyards, feeding ducks in public places, etc.

2.1.2.4 Animal and Plant Health Agency – Marco Falchieri

- Critical to establish timeframes of incursion. Have blood prep stocks ahead of the incursion. The end of summer/ beginning of autumn is the migration season.
- Virus isolation for six days.
- February 2024 was the last case of poultry in the UK. UK self-declared freedom from HPAI for GB on the 29th of March 2024.

- The migratory bird's infection peaked during the summer months; however, the "over-summering" effect was observed, and over two years of the outbreak, different bird species were impacted.
- Gulls are a bridging species.
- Signs of bird population immunity: In the current year, wild bird infection rates are shallow.
- Environmental sampling showed airborne spread was over a short distance, and the virus was not found more than 10m from the shed [note: a conflict in feedback from science-based Defra view vs farmers firm beliefs].
- Modelling and mapping the transmission of infection shows the dynamic of the disease. Biosecurity, surveillance, and serological management are essential.
- Understanding the impact of genomic changes on the behaviour of the disease.

Common issues in infected sites:

- Poor shed maintenance.
- Poor wild bird security.
- Lack of fencing and gate controls.

Biosecurity: changing overalls, footbaths, disinfection strength, inside—outside boots, biosecurity influenced by education and training, and different-coloured boots for inside vs. outside.

Lab Testing: It is not recommended that labs conduct extra testing and that only official government labs be used, as they meet the strict biocontainment standards needed in an incursion. Control of Hazardous Substances and Biocontainment rules apply. Human health issues should go to MOH (not Defra).

Human welfare: Defra Guidance for Poultry workers on H&S protocols. All parties, including the government and industry, must consider the mental health impact on those involved in an incursion (not just the farmers and growers).

2.1.2.5 Operational Response + Resourcing – Aled Edwards

Field Ops Incident Management Outbreak Response Assurance, Readiness and Learning

Early Detection is vital, reporting was activated within 30 minutes, and the investigation started within 2 hours. A gate officer was placed on the farm to govern movements in and out of the site.

Tracing: Based on epidemiological findings, source tracing is preferred over spread tracing. Tracing involves the whole supply chain, including commercial eggs, packaging, and manure. If the initial test is negative, the site remains restricted for six days until tracing confirmation comes through.

People: Resourcing can be challenging in an incursion, with the need for surge resourcing. Setting up a Forward Operating base (FOB) significantly increased APHA's output, reducing downtime from travel, etc.

The tax department team have a surge team that can provide administrative support for permitting, etc.

PPE standards - Waterproof suits, respirators, and asymptomatic swabs of staff

Rendering was the UK's preferred bird and waste disposal method, but transport can be a limiting factor, and renderers do not like to receive other vehicles on controlled sites. Incineration and landfill options were explored.

It is critical that information flows up and down through response and that the correct information reaches front-line personnel, which includes farm workers, not just farm owners. Consideration should also be given to areas where English may not be the first language.

Disinfection: APHA managed primary disinfection to begin the regulatory 28-day timeline to freedom; the industry handled secondary cleaning and disinfection. After 28 days, the country's independence can be reinstated.

Foot patrols are done throughout protection zones; zones are not lifted before 21 days.

Container Gas Units were the standard protocol for depopulation and trialled culling methods with whole house gas and foaming

2.2 DAY TWO

2.2.1 Meeting 3: New Zealand Delegation Morning Meeting

2.2.2 Meeting 4: DEFRA and APHA

2.2.2.1 APHA Epi Vet – Richard Hepple

- Webinars “Stop the Spread” and “Best Practice Biosecurity”. Before the study tour, Richard met with the NZ industry group to deliver a webinar. Additional Photobooks/ standards and checklists are helpful.
- Removing birds from the ranges is essential, especially if the disease is highly prevalent. However, housing birds can create more stress.
- Biosecurity standards need to be established and audited. It is recommended that one person in the company be accountable for biosecurity.
- Consider the outer shell and complex inner shell concept for sheds. Preventing water ingress into sheds is critical.
- If an egg packing site has a grader on site, this will be impacted, as will the ability of other equipment to be moved off the site, should it be identified as an infected place.
- Need to consider lateral spread movement of live birds and the risk of shared staff/ contractors.
- Biosecurity fatigue can be an issue. UK Lion code has a tiered approach to biosecurity, which helps manage responsiveness.
- Insight is that getting an incursion into a farm only takes one lapse.
- Slaughterhouse ‘designation’ relates to the ability of that facility to ensure separation.
- Movements across farms are minimal – can count on one hand the number of instances across a few years.

2.2.2.2 APHA Head of Contract Management – Chris Holloway

Whole-house gassing (WHG) is mainly used in large, caged units for culling, shed design, and clocking critical; the rest of the industry uses containerised gassing—CGUs with an Argon/ CO2 mix.

Gas supplies bulk CO2 in cylinder banks. When large volumes are needed during an outbreak, they are sometimes issued on time. Full-hooded respirators are the PPE for staff in sheds.

Incineration is an issue as it is not set up for biosecurity. OK, for double-bagged small operators

There is good rendering capacity in the UK. As renderers were well-established facilities, no additional controls were implemented.

DEFRA owns some equipment to help in an incursion; contractors own the balance. The product was only sent to Category 1 rendering facilities.

Nitrogen Foam trials were undertaken with broilers. The nitrogen foam dwell time is 30 minutes, which is good for animal welfare and much safer for humans. Livetec Ltd, a specialist Cleaning and Disinfection (C&D) contractor, managed the trials.

Culling teams were also doing primary C&D, which had slowed them down.

2.2.2.3 APHA Cleaning & Disinfection (C&D) Specialist – Vicky Symons

Preliminary clean done by APHA and funded by the government. The first step was to dampen down the shed and litter with disinfectant. This starts a countdown to shed repopulation. Then, the area is left for seven days before the farmer completes secondary C&D.

The farmer-producer funds all cleaning. An APHA vet supervises and signs off on the process. Farmers submit a C&D plan to APHA for sign-off.

Three options:

1. 2 rounds of C&D, followed by a 21-day wait, then monitor with sentinels
 2. 1 round of C&D, followed by a three-month wait, 2nd clean undertaken and 21 days wait, then monitor with sentinels
 3. If the shed cannot be effectively cleaned, the area was left empty for 12 months
- Difficulty in sorting multitier systems; needs risk assessment.
 - Litter Stack, Disinfect, and hold for 42 days. Then, there are specific rules as to where it can be spread. No litter from infected premises (IPs) to be spread on farms; it was incinerated
 - Wash water stored in bladders hold 90-120 days, or if pH <5 or >11, have 48 hours
 - Earth floors are limed to get pH 10 and then lie fallow
 - Liming of shed floors and ranges
 - Range areas treated with lime and harrowed. Leave fallow for 56 days

No post-C&D environmental testing. Sentinels are critical to return to production. Use of bird scarers to keep birds away from ranges and sheds.

2.2.3 Meeting 5: UK Poultry Industry Sector Meetings

2.2.3.1 UK Industry Sector Meetings

Industry participants: Mark Williams, Gary Ford, Maire Burnett, Aimee Mahoney, Mike Clark.

Kerry Mulqueen gave an overview of the NZ Broiler and Layer industries.

Industry overviews- industry subgroups' roles and priorities:

1. National Farmers' Union (NFU)
2. Disease surveillance

3. Comms
4. Culling and Depop – preparing for autumn.

WOAH Freedom of HPAI = 28-day standdown; WOAH's definition of poultry needs review; however, QA partners have known this for two years and raised it multiple times.

Given the number of incursions in recent years, the UK public is now conditioned to HPAI and recognises it is not a food safety issue.

There has been no drop in demand for eggs or meat in recent incursions. In 2016, the Food Standards Authority issued communications stating that this is an animal health issue, not a food safety issue.

Consumer education is critical. We need to ensure consistency of messaging and support during these incursions. (Journalists will keep calling to try to find a different message.)

Farm Assurance Lion Mark and Red Tractor cover biosecurity standard requirements at three levels: general, intermediate, and specific.

Tiered system key to managing biosecurity fatigue

Biosecurity third party audit every 12 months, internal audits every six months

Showering in only on breeder farms

Regionalisation is essential for breeding companies.

Housing orders can have a limited impact given that only 3% free range in the UK market.

Insurance against AI is possible in the UK, with some larger integrators self-insuring.

The industry has moved away from company vets to private vet support in an incursion to assist with animals, people, and trade issues.

It is recommended that local vets be involved in site orientations and that response support actions be aligned so that these providers are familiar with the operation in an emergency.

Fatigue is a concern. Linking with others to manage mental health is important.

2.2.3.2 Livetec Ltd – Julian Sparrey

- Many deployments to AI sites
- Focus on Preparedness Prevention Planning and Prediction

Containerised Gas Units

- 90% of operations are using Containerised Gassing. Setpoint 3 min must measure gas and time
- Gas mixtures 80% Argon, 20% CO₂, the residual O₂ must be <5%
- If 100% CO₂, there is the need to manage vapour draw to prevent freezing

Whole House Gas

- CO₂ >40% CO₂/ 30 min dwell/ 25 min to reach >40%
- Nitrogen Filled foam 3 l water /m³ 1:350 (vs fire foam at 1:80 – 1:1.14 10 l water/m³
 - Need foam generators.
 - two multistage CO₂ containerised systems have been delivered to a private NZ company, but Livetec has not yet commissioned these.

2.3 DAY THREE

2.3.1 Site Visit 1: Hook2Sisters

2.3.1.1 Hook2Sisters - The Old Quarry Park Farm (Broiler Farm)

On-farm visit to see the practical implementation of biosecurity required during an HPAI incursion. Prevention of virus to a site managed through:

- It is critical to have a truck wash on entry to the site
- Concrete yard sanitised every second day
- Grounds and outside area maintained to prevent attracting birds
- Boot exchange at the entrance to sheds. Outdoor boots were removed in the annex and changed into different-coloured shed boots after crossing the barrier
- Any items entering the shed must be disinfected before entry. Double lining of shed litter, with outer plastic removed before litter moved into shed and inner liner, disinfected before entry
- Prevention of water ingress key

2.3.1.2 Hook2Sisters – Stanton Hatchery

Further meetings will be held with Hook2Sisters to discuss biosecurity measures and controls at the hatchery site.

- Designated driver for each vehicle.
- More time cleaning than in chick transfers.
- Trucks cleaned inside and out every day.
- Truck wash on and off-site, clean down in a designated area.
- Traceability farm to fork, regular tracing undertaken to meet reg and customer standards.
- Daily fumigation of eggs with formalin.
- In AI, changes in disinfection type, frequency, and risk assessment affected flocks and incubators. If the breeder flock went down, eggs were taken out before confirmation.
- No evidence of a vertical (chicken to egg) AI transmission.
- Tripple washing of crates.

2.3.2 Site Visit 2: Traditional Norfolk Poultry (Mobile Free-Range Farm)

On-farm visit to understand biosecurity measures and HPAI impacts for free-range chicken and turkey farms.

Business learnings since flocks infected with HPAI:

- It is essential to restrict people's movements; ideally, sites will be run with one person living, one farm
- Fewer birds per farm and farms more spread out to offset losses
- Review product shelf life before the event, as increasing shelf life gave more flexibility at processing and could process sooner

- Report turkey health issues as soon as any concerns, 100% mortality within three days
- Ensure all team are working with a 'make sure it's not me taking it in' mindset

2.4 DAY FOUR

2.4.1 Site Visit 3: Sunrise Poultry Farm (Free-Range Farm)

On-farm visit to range Layer farm

The business experienced HPAI at farms, owner experience, and learnings shared:

- It is highly recommended that the egg packing shed is not in the exact location as the farms or be segregated from the laying production. Dual access to the site allowed farms and packing centres to keep operating as designated separate facilities
- Ensure personnel movements are controlled with no interaction between packing and farm staff
- Timing of housing measures is critical, as birds have better outcomes when housed quickly. Multi-tier sheds were better for managing the birds in these situations, as they only needed to add more enrichment to the sheds.
- It was found that the weakest link to biosecurity was maintenance people due to their tools and potential exposure to other infected sites.
- Protect 1m around the shed.
- During depopulation, staff were administered with antivirals (Tamiflu). Staff wear coveralls and hooded respirators.
- Staff welfare was a key concern, and there was a need to ensure support networks were in place. Staff stress levels were very high, and some staff were lost afterwards.
- In order to sell free-range eggs, stickers were applied to the cartons, "Eggs laid by hens temporarily housed in barns for their welfare", which could be used for 16 weeks.

2.4.2 Site Visit 4: GWL Feeds

Feed mill visit to see implementation of biosecurity controls and impact of zoning.

- Biosecurity is a high priority with truck washing key to maintain controls.
- Spray kit on truck wheels with spray used on and off farms.
- Trucks washed off-site before returning to the feed mill.
- Truck cab and mats washed daily, and the back of trailers fogged each week.
- Driver boot covers and overalls put on in cab before entering the farm and left on the farm after feed delivery.
- Housekeeping is critical, with spills being cleared quickly and management of birds through deterrents and culling.

2.5 DAY FIVE

2.5.1 Meeting 6: DEFRA and UK Poultry Industry Sector Meetings

2.5.1.1 Vaccination – Gordon Hickman, Defra

- Vaccination is not permitted except in licensed zoos where animals are contained and individually identified.
- HPAI joint government-industry taskforce has been set up, which includes producers from each production type
- Supports the principles of vaccination for preventive use in emergencies to manage uncontrolled spread, but it is not currently cost effective due to EU surveillance requirements.
- If vaccination occurred, it would be under the control of the competent authority.
- Recommended consideration is that trade impact must be evaluated if vaccination was pursued and that an exit strategy should be created

2.5.1.2 Game Sector – Dominic Bouton

- Low incidence of outbreaks.
- Three types of farm systems.
- Captive birds on game farm (breeder/ rearer).
- Birds left the farm at the point of release.
- Birds released/ wild birds.
- Biggest impact was movement restrictions (i.e. could not release birds)- welfare concern. All hatching eggs are imported from France and during the outbreak, testing needed to be adjusted to allow imports.
- Key lessons:
 1. Need contingency planning.
 2. Biosecurity relevant to the site.
 3. Learn how to live with the risk (i.e. need to improve profit margins).

2.5.1.3 DEFRA and UK Poultry Industry Sector Discussion

Industry and Regulatory Feedback

- Contingency planning (business and staff) is essential. It becomes necessary for risk assessment when companies and farms in a zone, e.g., hatcheries in a designated zone, can get permits.
- All businesses need a single point of contact in an incursion.

Messaging - build the message that the world isn't going to end and is not sensational

- When journalists google it, we have a history of things we've been working on over time.
- "Bore the hell out of people about it beforehand, to desensitise it."
- Defra putting information live on their website quickly – helps build trust. Defra reduced misinformation by being willing to talk about it and engage.
- Significant myth-busting was required (e.g. not going to kill all birds in 3km zones, etc.).
- Looked to proactively engage with the national journalists, as nine times out of ten, the messages are copied and pasted.

- The most significant source of rumours is the industry itself. In an outbreak, the British Poultry Council sent out daily updates.

Preparing for an incursion

Need to communicate contingency plan, including:

1. Farmer support – buddy system liaison. Pre-evaluate support needs. Planning for secondary C&D
2. Trade association engagement
3. Mental Health Support
4. H&S runs in parallel to Biosecurity at these times
5. Manage the comms re food safety/ public/ animal health
 - a. Get information to the public and de-sensitise the issue
 - b. Use simple, reassuring language
 - c. Manage the messaging
 - d. Regulator informing with quick, specific messages (speed of messaging is essential)
 - e. Myth busting
 - f. Be careful with images (live chickens, not meat/ eggs images)
 - g. Opportunity to link MPI/ Industry comms people with UK comms people

UK Incursion Meeting structures

The hierarchy of central meetings was:

Core Group: (convened by disease control lead)	TOR: Policy, detailed insights, Operational agreements (under Chatham House rules)	Experts by invite only from Livestock Sector Biosecurity Council,	Fortnightly/ monthly meetings
Bird Tables: (CVO led)	Contingency Planning. Disease reporting. Epi findings.	Ops team's animal welfare police, wildlife local authorities, industry,	30 mins (flagging issues)
CVO Stocktake	Transparent decision-making chain resourcing availability movement resource cover	Policy leads DAS APHA	daily

Support Programmes

Need to ensure adequate support programmes are in place for key stakeholder groups, including:

1. Farmers
2. Farmers in movement control zones
3. Vets
4. Contractors
5. Need to manage expectations. We need to have farmer-friendly advice and guidance available.

3 HPAI Study Group Debrief

The focus of this session was to:

1. Briefly update and review open HPAI readiness workstreams.
2. Discuss the week's key learnings and align recommendations/ proposals for how MPI/ Industry HPAI response should develop through the preparedness planning phase.
3. Align on the next steps and key actions to follow up on once the group disbands.

RESPONSE AND READINESS TEAM - HPAI DISEASE MANAGEMENT ACTIVITIES

		Follow-up activities/ additional.
1	Movement Controls and Permitting	Reviewed and agreed that it is still relevant
2	Depopulation	Review with guidance from the HPAI UK study group
3	Disposal	Ensure groups include discussions/ workstreams on outputs from disposal, e.g. wastewater, PPE, and packaging.
4	Decontamination	Risk assessment for wastewater to be included. Consideration of the impact of asbestos
5	Surveillance	Reviewed and agreed that it is still relevant
6	Vaccination	Reviewed and agreed that it is still relevant

DEPOPULATION

Australia Learnings	• CGU – all rented from local farmers • CO2 gas used • Foaming (firefighting foam) used for ducks and pigs
UK Learnings	• Argon and CO2 gas used • Experimented with N2 as an alternative to argon • Whole house gassing utilised • N2 foaming trialled

Proposal

- Containerised gas units are the preferred option for NZ.
- MPI should explore a range of gas mix options that are applicable.
- The industry will explore building sufficient capacity to cover how quickly to depopulate, based on animal welfare considerations.
- Layers propose two units on each island (capacity of 20,000 birds per day); Boilers to be added.
- Larger companies proposing to purchase for more comprehensive industry benefit.
- Preference for Industry to carry out depopulation, with regulatory oversight/ approval.
- Mixed model (layers) - more prominent players to be self-sufficient, smaller ones on a case-by-case basis.
- Commitment to work with MPI to support wider industry.
- Whole house gassing is not considered viable at this time, but companies could use it if determined feasible at their facilities.
- MPI will consider the ability to send HPAI-negative birds from an IP to slaughter (broilers) or use eggs from an IP-affected layer farm.

DISPOSAL

Material	Australia	UK
Birds	Buried, single site, unlined	Rendered
Litter	Composted	Rendered or composted
Eggs	Composted	Likely rendered?
Feed	Composted	TBC
Manure	Composted	TBC
Packaging	The ink was deemed to affect compost; no disposition was determined.	
Wastewater	Contained during C&D if asbestos present, other wastewater not managed	Captured held for 56days unless pH adjusted (>pH10)
PPE		Difficulty disposing through traditional routes

Note: In 2020, in Australia, commercial landfill options were used when on-site burial was not available

Proposal

- Recommendation for normal composting, either on or off site.
- MPI should investigate a mixed model, including on-farm disposal options.
- Industry will discuss with current rendering companies whether options can be improved and be appropriate for disposal.
- MPI will investigate wastewater disposal, considering resource consent.

CLEANING AND DISINFECTION

	Australia	UK
Governance & Control	End-to-end C&D carried out by the State.	Primary cleaning is conducted by APHA (trade requirement), and farmers conduct secondary cleaning.
Protocol	Two cleans 7 days apart Post C&D left 21 days and then sentinel flock for 14 days before use, or C&D and empty for 60 days	Primary clean - APHA coordinates the removal of bird litter, etc. and then dampens sheds with disinfectant. Secondary clean – 3 options for companies to choose. Free Range farm ranges are limed and harrowed and left fallow for 56 days.
Issues	Concern with asbestos roofs, material disposal and PPE requirements slowed the return to trade.	

Proposal

- Recommendation for Industry to undertake C&D, with Regulator oversight/ assurance.
- The regulator will provide a list of approved chemicals.
- MPI to investigate environmental persistence.
- MPI will investigate requirements for stand-down periods across all those involved.
- MPI will provide a return-to-trade plan based on production type (colony/ barn/ free range).

ZONING

	Australia	UK
Protection Zone	3km	3 km around Infected Premise

Surveillance Zone	10 km	10 km around Infected Premise
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Other country zones are based on trade requirements with EU countries. A different approach could be possible for NZ based on the overarching principles of find, contain and control.

Proposal for Discussion:

1. Case in poultry - proposal of a small protection zone (PZ) around an infected premise (IP) (permitting and contiguous testing). Larger prevention region (a - comms, biosecurity, b - housing order regulations (?)).
2. Detection in wildlife – prevention region (a - comms, biosecurity, b - housing orders regulations (?)).

A recommendation for a farmer-friendly online portal to apply for permits. It should include interactive mapping, as used in the UK response.

4 Next Steps

- Industry will review industry representatives on each work stream and propose if any change in personnel is required.
- HPAI Chairs Forum with the Director General will discuss joint ownership of the work plan.
- Request release of Cabinet paper once Cabinet has agreed on the matter.
- Meeting between Industry Chairs and GIA (Mike Lawson, Pete Thomson) to discuss operational agreement.
- Provide feedback to work streams to accelerate the progress of key work streams.
- Consistency of feedback of messaging and critical learnings from the trip.
- Prepare a final report to share with the industry.
- Messaging to wider Industry – newsletter, webinar.

5 Appendices

5.1 HPAI UK STUDY TOUR PROGRAMME

MONDAY 5 AUGUST	
NEW ZEALAND DELEGATION PRE-MEET	
Australia HPAI trip discussion & debrief.	
MEETINGS WITH DEFRA - Room PG57 - Conf Room 11	
- Welcome & Introduction – Christine Middlemiss (UK Chief Veterinary Officer) & Gordon Hickman (Head of Exotic Disease Control). - Overview of the UK poultry sector and devolved policy. - Overview of the recent outbreaks of HPAI. - Outbreak response & approach to disease control. - Discussion & Q&A.	
MEETINGS WITH DEFRA - Room PG57 - Conf Room 11	
- Approach to regionalisation and trade issues – Peter Gray. - HPAI vaccination policy – Gordon Hickman. - Wild bird surveillance and public reporting – Dr Lara Harrup. - Impact of HPAI on wild birds and approach to disease mitigation – TBC. - Operational response and resourcing – Aled Edwards, APHA. - Role of national reference laboratory and recent developments – TBC. - Mary will attend a meeting from 3.30 PM-5 PM with RCVS.	
TUESDAY 6 AUGUST	
MEETINGS WITH DEFRA	
- Welcome – Gordon Hickman. - Biosecurity and working with industry – Richard Hepple, APHA. - Culling and disposal – Chris Holloway, APHA. - Cleansing & disinfection – Vicky Symons, APHA. - Discussion & Q&A.	
MEETING WITH THE UK POULTRY HEALTH AND WELFARE GROUP (PHWG)	
- New Zealand Poultry Sector Overview – Presented by Kerry Mulqueen. - Overview of the PHWG – Aimee Mahony., Chair (Chief Poultry Adviser, National Farmers' Union) & Overview of each sector – Gary Ford (BEIC), Máire Burnett (BPC), Aimee Mahony (NFU), Dominic Boulton (GFA), Mike Clarke (BVPA). - Virtual Presentation by Livetec Systems (depopulation on farm culling service & biosecurity guidance for farms) on UK depopulation services – Julian Sparrey, Technical Director. - Roundtable discussion on the impact of HPAI on the UK poultry sector.	
WEDNESDAY 7 AUGUST	
SITE 1 VISIT - HOOK2SISTERS	
- The Old Quarry, Thorington Saxmundham, Suffolk IP17 3QZ. - Meeting with: - Farm Manager: Rob Parker, - Farm contact: Daniel Dring +44 07976 562288,	

- o Andrew Walker - Slate Hall Veterinary Practice, - o Laura Ford - Group Welfare, - o Calvin Carpenter - Manager Stanton hatchery (<i>may not meet until 2nd site</i>), - o Máire Burnett, Technical Director British Poultry Council. • No entry to live bird area. • The group will receive an overview of the Park Farm biosecurity and Rob's response when in the AI zone. House observation through viewing gallery. The farm consists of 10 houses holding 450,000 birds, all Ross 308. This farm was under restriction during the HPAI outbreak.
SITE 2 VISITS - HOOK2SISTERS, STANTON HATCHERY • Stanton Hatchery, P D Hook (Hatcheries) Ltd, Stanton Hatchery Grove Lane, Stanton BURY ST EDMUNDS IP31 2BB. • Hatchery Manager: Calvin Carpenter. • The Stanton hatchery hatches 1.2million/week and was under restriction. It also had a breeder flock with AI. • Discussion on the incubator's response to handling a flock confirmed with AI and being under restriction, their mapping & APHA licensing Portal and their veterinary response and actions. • Presentations on biosecurity, AI contingency planning, impact of the farm and hatchery in an AI control zone
SITE VISIT 3 – TRADITIONAL NORFOLK POULTRY • Address: Oak Tree Business Park, Hargham Rd, Shropham, Attleborough NR17 1DS. • Managing director: Mark Gorton. • Traditional Norfolk Poultry IS a free-range broiler producer (and seasonal turkey producer) located 30 minutes from the Stanton hatchery. • Discuss Mark's experiences of some of his farms contracting AI and being in a restriction zone for a lengthy period. The group will be able to observe one of his free-range sites from the site boundary.

THURSDAY 8 AUGUST
MPI VISIT - WILDLIFE RESERVE VISIT • Brancaster Staithe office, Scolt Head Boatshed, Harbour Way, Main Road, Brancaster Staithe, Norfolk PE31 8BW (2 hours and 55 mins) • Visit the coastal national nature reserve on the North Norfolk Coast, Scolt Head Island. Meeting with Officials from Natural England at 9 am.
SITE VISIT 4 –SUNRISE POULTRY FARM • 250 Seagrave Rd, Sileby, Loughborough LE12 7NJ, UK • Meeting with the owner, Philip Crawley & Aimee Mahony, Chief Poultry Advisor Egg, National Farmers Union • Sunrise Poultry produces colony cages, free-range units, and an egg packing centre. • This will include a free-range egg unit, a tour of the egg packing centre, and a discussion in their meeting room on how he managed AI as a business, the impacts of restriction zones, etc. All the sites were in an AI control zone for some considerable time during the HPAI outbreak, during which free-range birds had to be housed under the order of the CVO. I will be on-site during the visit.
<u>GWL FEEDS</u> • Lindum Mill, Ashby Road, Shepshed, Loughborough, Leicestershire, LE12 9BS. • Meeting with Graham Palmer, Commercial Director at GWE Feed Mill.

- A short presentation sharing an overview of the company and mill. You will then tour the external facilities, where most of their focus is on AI. The group will see loading and wheel washing facilities. They also have a dedicated lorry for a breeder site and a prototype for deliveries during AI restrictions, which they will have on-site for you to review and discuss.

FRIDAY 9 AUGUST

MEET WITH BPC & BEIC

- NFU London Office, 18 Smith Square, London SW1P 3JJ.
- Meet with the British Poultry Council and British Egg Industry Council. And National Farmers Union

MPI-INDUSTRY DELEGATION FINAL MEETING

- Debrief of the week's learnings.
- What are the differences between the UK and draft NZ operational plans?
- The critical differences between UK Biosecurity and NZ Biosecurity

5.2 HPAI UK STUDY TOUR PROGRAMME PARTICIPANTS LIST

Logan McLean	Principal Adviser, BNZ
Maryna Sokolova	Team Manager, BNZ
Ashleigh Frandi	Relationship Manager, BNZ
Mary Van Andel	Chief Veterinary Officer, BNZ
Sophie Shaw	GM - Technical Services, Tegel
Shelena Wiggill	National Livestock Manager, Brinks
Matt Easton	General Manager - Operations, Inghams
Judith Mair	GM Zeagold Agribusiness
John McKay	EPFNZ Chair and Zeagold CEO
Kerry Mulqueen	Senior Adviser, PIANZ
Mike Fleming	Director, Better Eggs