DEPARTMENT OF AGRICULTURE

TALKING POINTS – INVASIVE SPECIES COUNCIL GENERAL MEETING, 28 OCTOBER 2019

- We are meeting today on the traditional lands of the Wurundjeri people. I wish to acknowledge the Wurundjeri people as the traditional owners and custodians of this land. I would like to pay my respects to their elders past, present and emerging and to acknowledge the continuing connections of Wurundjeri people to land, water and culture. I would also like to extend this respect to any Indigenous or Torres Strait Islander people who may be here this evening.

Environmental Biosecurity Overview

- The *Commonwealth Biosecurity Act 2015* (The Act) provides the legal basis for the Commonwealth role in managing biosecurity threats to plant, animal and human health in Australia and its external territories, including how we manage biosecurity threats to our unique Australian environment.

- The *Act* stated that it 'relates to diseases and pests that may cause harm to human, animal or plant health, or the environment'.

- The *Act* is underpinned by two main heads of power, the quarantine power, s51.9 and the external affairs power, S 51.29, specifically our obligations under the Convention on Biodiversity as well as trade agreements and the provisions of the sanitary and phytosanitary agreement

- Environmental biosecurity matters for our economy, our health our way of life and our environment

- Recent biosecurity system reviews, including a Senate inquiry on environmental biosecurity and the Review of the Intergovernmental Agreement on Biosecurity (IGAB) recommended that the Commonwealth place greater emphasis on environmental and amenity biosecurity.

- To ensure this increased focus, the IGAB review recommended that a Chief Environmental Biosecurity Officer (CEBO) be created and supported by a small team.

- The Invasive Species Council, its members and particularly its CEO Andrew Cox have worked tirelessly and for a long time in raising the profile of environmental biosecurity.

- The advocacy worked. Environmental biosecurity is inextricably part of the Commonwealth role and structure for biosecurity.

Environmental Biosecurity Matters

- The increased focus on environmental biosecurity addresses the risks which weeds, pests and diseases pose to our natural environment, the natural systems that underpin our way of life and the amenity we enjoy in Australia.

- Invasive pests, weeds and diseases are the number one factor threatening Australia's fauna and flora and their unique habitats.

- Invasive species jeopardise provision of ecosystem services such as pollination, water purification, climate change mitigation and pest control and also cause considerable costs to industry and communities.

- Invasive pests have the ability to disrupt the way of life for all Australians, for example; invasive biting ants such as the red imported fire ant (*Solenopsisinvicta*) can render public spaces unusable. If they were to become established in Australia it is estimated that their control would cost $1.5 billion per year.

- More research is needed in the Environmental Biosecurity space to provide us with a better understanding of the risks we are faced with and the impacts that pests, weeds and diseases may have in the unique Australian environment.

Globalised spread of pests and diseases

- The risks are growing. By 2025 we will see a 28 per cent increase in shipping, a 72 per cent rise in international passengers and a greater than 100 per cent increase in containerised cargo. With this increase, doing more of the same is not enough. We need to do things differently.

- Growing trade, travel and climate change is increasing the risk of pest, weed and disease incursions.

- Australia and New Zealand remain one of the last bastions fighting to maintain our pest and disease free status whilst other nations struggle with an influx of new pests and diseases. For example, each year the US accepts 40 new pests and diseases into management.

- The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Report focused heavily on the million species listed threatened. However, less focus was given to invasive species and increased disease risks- since 1970 there has been a 70 per cent increase in numbers of invasive alien species across 21 countries.

- Our environment is as important as our industries so it is crucial that we put the environment on the same biosecurity footing as animal and plant industries. This will create one biosecurity system.

- Environmental biosecurity is aimed at ensuring the risks exotic pests and diseases pose to the natural environment and social amenity are managed, including preventing exotic pests and diseases from entering emerging, establishing or spreading in Australia.

Environmental Biosecurity Activities

- The Department is making progress with environmental biosecurity, establishing the position of Chief Environmental Biosecurity Officer and the Environmental Biosecurity Office and its work program.

- The CEBO position provides policy leadership on environmental biosecurity issue, to improve the maturity of our environmental biosecurity preparedness, surveillance and response and act as the national notification point for exotic pest and disease responses.

- We now have a governance structure (committees and funding platform) for environmental biosecurity through a funding deed, the National Environmental Response Agreement (NEBRA)

and the Environment and Invasives Committee under the National Biosecurity Committee. We have also established the Environmental Biosecurity Advisory Group, the first non-government advisory body in the National Biosecurity Committee structure.

- Since November last year, key activities by myself and the Environmental Biosecurity Office have included; raising awareness of environmental biosecurity through environmental biosecurity roundtables, participation in the National Biosecurity Symposium, increased social media presence and engagement with numerous non-government and government stakeholder groups including hosting a workshop on illegal wildlife trade.

- While there is a lot of goodwill for environmental biosecurity, there is not a widespread appreciation of the threat of exotic pests, weeds and diseases or how best to manage them.

- At the border, our inspection regime is on the lookout for live organisms and animal or plant material which could have a negative impact on the environment or agriculture. We are turning away Mercedes Benz cars at the moment because they are infested with snails. Our detector dogs work long hours.Although trained to find plants and stink bugs, these amazing dogs also seem to have a talent for finding spiders.

- In the north, the Northern Australia Quarantine Strategy is also very active in preventing pest, weed and disease incursions from all sources.

- The biosecurity system was built to protect agricultural systems. However, we have an all hazard response system that can and has worked for the environment. For example, the SE Qld Red Imported Fire Ant is our biggest biosecurity response at over $700 million and NSW successfully addressed the viral disease in the Bellinger Turtle.

- Hitchhiker pests, like ants, bugs and snails are a big threat to our environment. At the border and internationally through the International Plant Protection Convention we are making efforts to address the threats they pose.

- This is not without barriers, many of our trading partners do not see environmental pests as a priority or lack the legislative powers to do anything about them.

- Working to improve our environmental biosecurity capability is key to our activities- for example we are currently developing an InvasivePlan to better prepare for and respond to environmental incursions, by building on plans that exist for the production animal and plant sectors. When completed this will be the environment equivalent of AusvetPlan or PlantPlan and provide a framework for better incursion response.

- Implementation of AntPlan, (a biosecurity risk mitigation plan for ants) has also commenced and we are trialling risk mitigation plans for Acacia and mangroves.

- We have also recently released an interim Priority List of Exotic Environmental Pests and Diseases for public consultation, providing an opportunity for increased stakeholder engagement. When finalised, this list will enable us to better focus prevention, detection and preparedness activities. But the list will not be the only things we look out for. Too much is at risk and too much changes.

- In addition to these activities we have been working to build better surveillance capacity. Work has commenced on incorporating environmental priorities into surveillance systems for plants and discussions have commenced with citizen science networks on how their data could be incorporated into a general surveillance system.

- The Environmental Biosecurity Office is also using IBIS (International Biosecurity Intelligence System, our web scanning tool) and foresighting systems to look out for environmental incursions elsewhere and to inform priorities.

- Improvements to our preparedness and response are also underway. Investments have been made in new recording systems; lessons from experience with environmental biosecurity incidents are being used to improve response arrangements; and the interjurisdictional Environment and Invasives Committee has led to a review of gaps in response capacity.

- CEBO is also contributing to the review of National Environmental Biosecurity Response Agreement (NEBRA), is building linkages with interested community stakeholders including Natural Resources Management (NRM) groups and private land managers and is developing formal working arrangements with the Department of Environment and Energy.

- In the wildlife space, the wildlife health surveillance systems operated by Wildlife Health Australia (WHA) is being improved and extended to better accommodate diseases beyond those that spill-over to production animals.

Challenges in environmental biosecurity

- The environmental biosecurity system is challenging and less mature than that of other sectors including plant and animal biosecurity. We have started but there is a way to go in comparison to the production animal, plant and even marine sectors.

- The environment faces some specific challenges:

- There is a very large number of potential pests, weeds and diseases and environmental hosts which could impact upon our environment and information about relevant impact and control strategies in the unique Australian context is limited.

- Unlike production pests, which are likely to be limited in their genera and geographic distributions, environmental pests and diseases extend across terrestrial and freshwater vertebrates; terrestrial and aquatic invertebrates; marine pests; plants; plant pathogens; wildlife diseases; and aquatic animal diseases and cover the entirety of Australia

- Early detection of an environmental incursion is difficult, especially if it comes by a natural pathway and controlling the spread of incursions also presents us with challenges.

- Information gaps exist. Expertise in environmental biosecurity is not all located in biosecurity agencies and not all jurisdictions' legislation provides for managing environmental and amenity pests and diseases by biosecurity agencies, though more recent legislation is moving this way.

- The environmental sector comprises a wide range of non-government organisations, advocacy groups, researchers and other stakeholders such as landholders, outdoor enthusiasts and Indigenous communities who in many cases are unfamiliar with biosecurity beyond perhaps controlling established weeds and pests.

- Decisions not to do something or destroy parts of the environment to protect other parts is not easy. Spreading response resources too thinly means money is gone that could go more effectively to another response.

- Due to the long history of agricultural biosecurity, the animal and plants sectors and to a lesser extent marine and aquatic sectors have much more mature systems in place for detection, prevention, preparedness response and management than the environment sector.

- The contrast is stark but the priorities can be identified. Environmental biosecurity needs to build its response capacity, strategic and operational planning and improve information and engagement. Work has commenced in these areas but there is still a long road ahead.

Four layers of protection

- Our biosecurity system provides four layers of protection that need to operate in parallel

- Pre border intelligence gathering and prevention which helps to keep the pests offshore. In the production sectors, analysis shows that near 50 per cent of the reduction in risk can occur in this pre-border offshore phase.

- Border inspection and treatment. We continue to improve our border procedures including applying new data analytics and utilising targeting sensors and scanners. However no border can be airtight if trade and travel is to continue. We also have to take into account natural pathways which are even harder to manage.

- Post-border surveillance and detection and incursion response. It can be hard, very expensive and prolonged. Red Imported Fire Ants is an example. But we are getting better, three recent incursion post the South East Queensland one have been eradicated.

- Asset protection. This is not just conventional feral animal and weed control that is primarily the province of the jurisdictions. It is also pre-emptive actions to find, manage or contain pests, weeds and diseases by all land managers. This step includes farm and property biosecurity plans and island biosecurity plans.

Awareness

- Improved general awareness and articulation of the value of environmental biosecurity is important to preventing and responding to exotic pests and diseases as well as established ones.

- There is a continuing need to raise the awareness of and engagement in environmental biosecurity, Australia's pest and disease status and the role many individuals and community groups can play in maintaining or improving it. It's our backyards, beaches, bushwalks, gardens and food.

- Environmental biosecurity is not something governments can do alone. Environmental biosecurity requires a nation-wide approach, encompassing multiple governance levels and all members of the public, particularly those who are active in the outdoors. We need the eyes and ears and arms and legs of the community to assist us in keeping exotic pests, weeds and diseases out of our unique environment.

- As environmental and amenity pests, weed and diseases affect the whole community, environmental biosecurity in the context of one biosecurity, provides a connection with the broader Australian public. This can contribute to reducing risk for the whole economy.

Information and intelligence

- Currently, information and data on the quantifiable risks and impacts of environmental pests and diseases on our environment is a weak point in the system. We cannot simply assume that the impacts of international incursions or pest and disease impact on the environments of foreign nations will be the same impacts those pests will have upon us. More research and analysis is needed.
- Subject specific environmental expertise does exist, but it is often outside biosecurity agencies, in some environment agencies, museums and universities.
- Environmental research in Australia has a key focus on threatened species and communities but could place more emphasis on exotic pests and diseases if we are to better prepare for them.
- Research on technology or science such as of sensors, diagnostics, data analytics, data standards, risk assessment and behavioural science apply equally to all areas of biosecurity. But environmental priorities need to be injected into it.
- The current Environment and Community Research, Development and Extension Strategy is being examined to ensure better implementation and coordination with other biosecurity research strategies being implemented and that environmental opportunities are taken into account in wider biosecurity research, development and extension.

Keeping the pests and diseases offshore

- The Environmental Biosecurity Office is active in preventing environmental pests, weeds and diseases reaching Australia.
- The office is promoting a recommendation through the international plant standards setting committee, the International Plant Protection Convention, to better manage contaminant pests in trade pathways. In March, 2020 the office will be hosting anInternational Plant Protection Convention (IPPC) International Symposium on limiting the spread of contaminant pests which will focus on how we keep stowaway pests out of Australia.
- Australians are currently participating in the International Panel on Biodiversity and Ecosystem Services review of invasive species and promoting invasive species. This is important work and CEBO is supporting this action.
- CEBO is also working with the Commonwealth Department of Environment and Energyto ensure that invasive species management is prioritised in the next round of Convention on Biological Diversity (CBD) strategies.
- CEBO is also linking environmental pests to work by Plant Health Australia on overseas plant sentinel gardens and using our intelligence and data analytics capacity to identify emerging pests offshore.
- Priority pests, weeds and diseases need to be incorporated into pathway analyses. The Northern Australian Biosecurity Strategy is a step towards this goal.

- Keeping invasive species and diseases on the international agenda is a significant challenge. Some countries do not see it as a priority whilst others lack the legislative capacity or resources to do anything about it. But things might be changing. The US is worried about timber pests, lantern fly and white nose virus in bats and Europe is increasingly worried about ash dieback, dutch elm disease, BMSB, birch spruce bark beetles and Xylella.

- More needs to be done globally in the environmental biosecurity space at multiple scales, and across government and non-government sectors, from the individual level up to the multi-national level

Priorities

- Resources are limited, so it is vital that we prioritise our activities in order to have maximum impact. We need identify priorities for environmental pests and diseases to inform preparedness, prevention and response initiatives. Not because the priorities will be all we will deal with, but because they can focus effort and assist in communication and awareness raising

The interim Priority List of Exotic Environmental Pests and Diseases

- The interim Priority List of Exotic Environmental Pests and Diseases has now been published and is the start of a broader process.

- This list will help us toin raising awareness, focussing R&D, providing a basis for intelligence gathering, pathway analysis and targeting surveillance and diagnostics.

- As resources will never be unlimited generic tools might be most useful and broad general surveillance rather than narrow targeted surveillance.

A matter of scale

- Awareness and R&D are of obvious value of focussing on environment biosecurityand has already had a positive impact. However, we don't yet have the adequate information to prioritiseas well as we would like.

- In the production animal world, we have roughly a dozen or so major animal species (cows, sheep etc.) with a few dozen or so major diseases and pests. In the plant production world this balloons out to roughly 100 or so production species and 5000 plus plant pests (not counting the nursery industry)

- According to the Australian Biological Resources Study (ABRS) in Australia there are over 8000 chordate species, 98 703 invertebrates, 24 716 plants (including plant algae and bryophytes), 11 846 fungi and around 4 186 in other groups. The number of potential pests and diseases of these species is likely to be significant, and we can only guess at their impacts.

- This is an almost overwhelming job, but we can prioritise, we can group and we can start. Our priorities will continually need to be reviewed to ensure that we are focussing our efforts in the right area.

- Arguably wildlife health has been underdone, for example, we could find virtually no one who knew anything about invertebrate disease beyond bees and marine crustaceans. But wildlife health is an issue. A severe wildlife disease can have dramatic effects on populations very quickly.

- Wildlife disease can have extremely serious impacts on populations of native and often threatened species. More than half the population of critically endangered Saiga antelope in Central Asia were killed by a bacteria in 2015-16. White nose syndrome has had a devastating impact on bats in the US killing more than 7 million bats and Dutch elm disease, Ash dieback, badger tuberculosis and Chytrid have had serious impacts throughout Europe. Chytrid on frogs and toads across the world.

- Globally, 501 amphibian species have declined in number and 90 are extinct due to infection with Chytrid fungus. In Australia, 42 species declined and 7 became extinct, with 6 still at risk of extinction in the future.

- We have also seen the impact of Koala chlamydia, mange on wombats and Koalas and Devil facial tumour disease. Fifty per cent of the population of spectacled flying foxes were killed by hot weather last summer. Phytophthora and myrtle rust damage to plants also has a flow on effects on animal communities Diseases can have big impacts, over a short time.

- The important question to ask is who's next? What is the next disease which will impact upon on unique biota?

- Orange Bellied Parrotsare critically endangered with well less than 70 left in the wild. These parrots could be severely impacted by beak and feather disease

- Swift Parrotscould be infected with Pacheco's disease, parrot herpes or a parrot bornavirus (internal papillomatosis disease (Psittacid herpesvirus -1) Proventricular dilation disease (Parrot bornavirusPaBV))

- Endangered Tasmanian Giant Freshwater Crayfish or any of the many endangered or critically endangered Australian crayfish species, could be infected with Crayfish plague (*Aphanomycesastaci)*

- Critically endangered Baw Baw frog is only found on the Baw Baw plateau in Victoria, fewer than 600 remain and they could be wiped out by Chytrid.

- There is a need for greater focus in these areas. We are working with Wildlife Health Australia, the veterinary schools and ecology departments and researchers more broadly to see if we can lift our performance in wildlife surveillance, response and research and development.

- To keep these pests and diseases out we are working to cleaning up trade which will manage the hitch-hiker/contaminant pest pathway. Illegal trade and the mail pathway remains an issue but more analysis, new penalties and new border tests and sensors will reduce this risk.

- Plant disease control in a natural environment is a challenge as is control and detection on legal pathways. Funguses on plant material and clothing, viruses and bacteria in plant material. We know the impact of fungus and fungus like diseases and are working on improving their control and management.

Preparedness and response

- We have a generic framework for all biosecurity but work is needed to make it effective for the environment. Work is needed to overcome the unique challenges passed in the environmental sector.

- We need secure access to good information expertise about environmental pests, weeds and diseases.

- Emergency response and ongoing management capacity needs to recognise the different stakeholder base and expertise base for environmental biosecurity requires development. The existing institutional structure can be applied to environmental issues but it is likely to be less effective at accessing relevant knowledge and expertise.

- We also need to make the process more transparent. For commercial and trade reasons biosecurity responses in the production space are carefully communicated, but this need not be the case for the environment. Despite this, environmental pest responses always seem slower than we would like.

- Like most plant and marine incursions, decisions have to be made about whether the pest, weed or disease is eradicable, the risk posed and the benefits and costs assessed.

- With limited information and skills to diagnose the species, assess impact and prepare a response plan, this is not easy and with the best will may take time. Improving access to information and diagnostic and biological expertise on environmental pests and diseases, including reference material for identification

- However, without plans, networked expertise and stakeholders familiar with or trained in emergency response, any response is likely to be slower and potentially less effective than an equivalent response in the production sector.

- Production sectors have AusvetPlan, AquavetPlan and PlantPlan to guide responses and risk mitigation plans exist for some species and diseases, particularly in the animal sector. InvasivePlan is intended to fill this gap in the more complicated environment sector and is well underway. The aim is for the same protocols to operate if it were a local, regional, jurisdictional or national response.

- NEBRA provides for outside advice to be brought into the consultative committee that are the drivers of biosecurity response.

- Applying the emergency response and preparedness framework for environmental biosecurity needs work. It takes an all hazards approach so can be applied to environmental incursions.

- However, work needs to be done to provide the same level of efficiency and effectiveness in responding to incursions as we have developed in the agriculture sectors. More work in negotiating formal arrangements to access relevant expertise; risk mitigation plans and strategies for priority pests and diseases or asset and pathways need developing; and planning for and conducting an exercise to test capability and building relevant skills in individuals

- This priority has been identified by the Environment and Invasives Committee.

Surveillance is critical

- Early detection through intelligence and surveillance is critical to minimising the risk of exotic environmental pests and diseases. However, cost-effective surveillance systems do not exist for the environment.

- Wildlife Health Australia's sentinel vet program is an important start in this area.

- We are working with the plant sector on a surveillance system that can be extend to the environment and this approach would also be useful for animal and marine surveillance systems.

- These surveillance systems are being extended to include environmental pests, weeds and diseases of concern although the number, and range of pests and geographic and scope of

environmental concerns mean that lower cost general surveillance maybe more important than in production sectors.

- A range of local government and community based organisations such as NRM bodies, Landcare and similar bodies, bird organisations, citizen science groups all undertake work related to environmental biosecurity, albeit frequently with an established weed and pest focus.

- These bodies can be developed and drawn on to improve public understanding of environmental biosecurity, assist in surveillance and provide advice on response for exotic pests, weeds and diseases. They could play the role farmers play in the monitoring of production pests.

- We are working with NRM groups, local government and other interested parties to strengthen general surveillance and the capacity to draw on citizen science data effectively will become increasingly important.

Biosecurity Plans

- The final part of the biosecurity defence is what is going on at a property level.Farmers are now being encouraged to have farm or property level biosecurity plansas part of good farm planning. Examples include the implementation of biosecurity plans for bananas after panama disease, chickens after Newcastle disease and Salmonella, pigs with the threat of African Swine Fever and in some parks for Phytophthora. But why do we have to wait for a disaster to occur in order to do anything?

- While within the border is mainly one for the jurisdictions, I would like to prioritise some areas of national environmental significance for improved biosecurity protection. Surely world heritage listed properties deserve the same biosecurity protection as our grazing properties?

- This would include the completion of biosecurity risk assessments and the development of biosecurity management and risk mitigation plan within overall management plans for areas of conservation value. This could also involve the development of a tool kit that could be applied more widely across conservation areas.

- This approach could also be taken for particular ecosystems, for example we are currently developing plans for Acacia and mangroves.

Conclusion

- Environmental biosecurity is a large but immensely important challenge.

- To ensure that our environmental biosecurity is maintained and that our unique flora, fauna and way of life is protected we need framework that

    a. is underpinned by engaged stakeholders

    b. works with stakeholders who have an improved understanding and networked capacity to effectively participate in environmental biosecurity management

    c. comprises agreed priorities for action that are well understood by all in the system

    d. improves collaboration with environment agencies, states and territories and New Zealand on environmental biosecurity issues

    e. provides accessible information on Australia’s environmental biosecurity risks, actions and status.

- There is a clear public benefit in protecting our environment and amenity from invasive weeds, pests and disease.I think the public understand this - images of silent dying forests, weed infested parks, diseased birds and street trees are not what Australians value. Environmental biosecurity provides the opportunity for all Australians to embrace good biosecurity practice.

- It's not cool to smuggle cuttings or order seeds for overseas sources. It's not smart to bring in exotic animals as pets. It is smart to manage weeds, pests and diseases on your own land and it helps if all our eyes are on the lookout for invaders.