



AWMS POSITION STATEMENT Managing Disease in Wildlife Populations

Background

The capacity of Australia and New Zealand to manage disease outbreaks in commercial livestock, plants and human health has received significant investment in time and money. However the response to threats to wildlife is largely undeveloped despite the apparent increasing incidence of disease in wildlife and threats to humans from diseases originating in wildlife.

The Australasian Wildlife Management Society (AWMS) proposes that managing wildlife diseases is under resourced and that improved surveillance and response to a quarantine breakdown should be national priorities given the importance of wildlife to both the cultures and national economies. The society notes the well established role of wildlife as reservoirs of disease that threaten humans e.g. Lyssavirus, SARS, Avian Influenza, the devastating impact of disease on endangered species, e.g. mass die-off of the critically endangered Hooker's sea lion, the impact of disease on once more common species e.g. Tasmanian devil facial tumour disease and amphibians in general.

Importance of wildlife

There can be little doubt of the importance wildlife has to national identity and culture. The kangaroo and the kiwi are central to Australian and New Zealand iconography –. Wildlife¹ is also an important component of the economy, creating considerable income through tourism, and through consumptive use. The value of native fish, forests and some other plants has been documented but a more precise dollar value is needed from further research to support these assertions.

Disease as an ecological process

Endemic not exotic disease is a natural phenomenon, analogous with predation and controls population growth. However, diseases can have profound impacts on wildlife, particularly when populations first become exposed.

New host/pathogen associations can appear due to mutations or transfer of a pathogen to a new environment. Often this is due to a quarantine or biosecurity breakdown. Outbreaks occur as a consequence of procedural failure or human induced changes in the environment or habitat of plants and animals. Disease can be a direct threatening process as well as an added stressor on top of habitat change, climate change, predation by feral animals, impact of pesticides and residues etc.

Internationally new diseases are emerging under anthropogenic influences. Their impact can be profound where pathogens cross between species or when there is novel exposure to wildlife populations already reduced in numbers and/or fragmented. Pathogens are appearing in places and in species that they have never affected before. Avian Flu was transmitted from chickens to pigs, then between humans, then directly to humans and, at

¹ This position statement focuses most strongly on fauna but many comments also apply to native plants and fish.

the same time, crossing to species that were never affected in the past, such as tigers and leopards.

Sometimes an outbreak is intentional and an epidemic is induced such as with the historical releases of Myxoma and RHDV into feral rabbit populations. In New Zealand, such pathogen transfers to predator-free island sanctuaries are a common and important component of threatened species recovery plans. Protocols have been developed specifically to identify and manage these risks.

Management of wildlife disease outbreaks

Effective disease management is not a simple task. It involves not only mounting quarantine barrier operations, complex in-situ risk assessment and management to help detect and prevent outbreaks, but also maintaining a capacity to eradicate outbreaks. There is also a need to conduct surveys to provide knowledge of disease and pest status both to enable earlier detection and control and to meet international reporting obligations of disease status to the Office International des Epizooties (OIE) under the World Trade Organisation (WTO).

Relative to domestic animals and people, there is minimal baseline data on the range of disease organisms present in the Australian and New Zealand fauna, their geographic distribution, species susceptibility and impact on other populations of wildlife, domestic animals and people.

Relatively large expenditure in agricultural production and human health

To control diseases that impact on profitability of agriculture or affect human health substantial resources are invested by industry and governments in disease research. The benefits of the investment can spill over to provide information and control of diseases in wild animals where there is a threat to humans, such as avian influenza, rabies, toxoplasmosis or tuberculosis.

Current funding allocations for wildlife disease management however are parsimonious. The agricultural and human authorities say wildlife diseases are not their responsibility unless they threaten agricultural or human health and the wildlife conservation authorities have neither budgets nor expertise in disease control and management, expecting the agriculture authorities to respond. Both omit the value of wildlife to the nations and underestimate the role of wildlife in the maintenance, geographic spread and transmission of diseases significant to human and domestic animal health.

The size of the allocation of resources for disease management and research in wild animals is much lower than for animals and plants in agricultural production. Nevertheless there have been some recent improvements including the establishment of the Australian Wildlife Health Network and cross-departmental funding for wildlife disease surveillance in New Zealand,

There has been some expenditure for the management of the Tasmanian Devil facial tumour disease although miniscule by comparison to the scale of the threat and to investment in controlling livestock diseases such as equine influenza.

Wildlife diseases surveillance and response planning

New threats to the environment from diseases, pests and weeds are a regular occurrence. The threat is rising due to freer international trade and human movement. To be aware of outbreaks and infestations before they become established, surveys of wildlife are essential

to monitor the effectiveness of quarantine procedures and to assist in the allocation of resources in an emergency.

Quarantine processes are a service for the community as a whole. In some cases they deliver a mixture of outputs for which a beneficiary can be identified. The costs should be borne in part by the community as a whole and in part by the beneficiaries. Tasks identified as functions of the national government such as border surveillance, collection of statistics, and response planning should be funded by the government. So too should analytical assessment, policy development, and risk and cost-benefit determinations.

Surveys enable Governments to meet their international obligations to report diseases and pests and to fulfil documentation requirements. Survey results should be available. There has been some recent progress on national collation of information but progress is slow mainly because of split responsibilities, disputes over ownership of survey information and funding uncertainty.

Complexity of arrangements and responsibilities

In applying the resources that are available to support wildlife health, responsibility is not clearly allocated between departments of conservation or departments of agriculture.

The role of industry is equally less clear. In agriculture the beneficiaries from healthy production processes contribute via levies. However, mechanisms do not exist for collecting levies from the main economic beneficiary of wildlife, the tourism industry, or industries which benefit from harvesting wildlife or breeding native animals and plants.

Government should be clear that wildlife disease control is the responsibility of the agencies with veterinary expertise and response structures in place to deal with disease- the agriculture departments and the authorities within them responsible for quarantine, biosecurity and animal and plant health. Where expertise lies in specialised fields – such as with chytrid fungus in amphibians, there is a particular need for multi-agency cooperation. However in actually implementing management and control, the ultimate responsibility should lie with one minister and agency.

Australian Government responsibility

In Australia neither the States nor the Australian government accept responsibility for wildlife health. (New Zealand does not have two levels of government to deal with.)

In order to improve efficiency, avoid duplication, and maximise the return from available funds, the Australian Government and the States should reduce the complexity of arrangements for policy development and lines of reporting for dealing with wildlife health and disease management.

There appears to be incomplete utilisation of the quarantine power of the Australian Constitution and the authority of the *Quarantine Act 1908*. The option of using Australian Government Quarantine authority to manage the full range of micro-organisms, weeds, insects, pests, both invertebrate and vertebrate that are national problems, as set out in Australian Constitution, appears to be compelling. Quarantine would clarify responsibilities for wildlife disease control and support national coordination.

Based on the above, THE AUSTRALASIAN WILDLIFE MANAGEMENT SOCIETY:

RECOGNISES that disease is a natural mortality phenomenon, analogous with predation but that pathogens can become more active and profoundly affect populations when anthropogenic influences such as a quarantine breakdown, habitat and climate change, predation by feral animals, and the impacts of pesticides and residues, come into play.

Is CONCERNED that the impact, potential or otherwise, that wildlife disease may have on wildlife populations is poorly recognised in some quarters including government agencies and the general public.

Is CONCERNED that the current investment in wildlife disease surveillance and management grossly under-represents the importance of wildlife to the National psyche and economy of Australia and New Zealand, and that there is no clear allocation of responsibility for wildlife disease management in Australia or New Zealand.

Accordingly, AWMS recommends that:

1. The quarantine powers available to the Australian (and New Zealand) governments should be used as the basis for monitoring disease incidence and outbreaks, managing wildlife disease control, supporting national coordination and thereby clarifying responsibilities.
 2. Expenditure on wildlife disease surveillance and management, and preparedness for the disease outbreaks more closely represent the importance of the wildlife to Australia and New Zealand.
 3. Investigations should be undertaken of the value of wildlife to indicate its significance to the Australian and New Zealand economies and to show the industries that benefit from wildlife, which would therefore be in a position to contribute to wildlife disease management.
 4. More effort is made to highlight the importance of managing wildlife diseases and their potential detrimental impacts on native wildlife populations
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Other sources of input and co endorsement

- Wildlife Diseases Association – Australasian Section
- New Zealand Centre for Conservation Medicine
- Australian Animal Health – Canberra
- Australian Veterinary Association

This position statement reflects the content of cited papers and the opinions of the authors. While the views expressed in this position statement have been circulated for comment within the Society, they do not necessarily reflect the views of the AWMS committee or all AWMS members. AWMS makes no claim as to the accuracy of this document and any party using this information does so at their own risk.