31 July 2023

WILDLIFE HEALTH AUSTRALIA COMMENTS ON THE NATIONAL HEALTH AND CLIMATE CHANGE STRATEGY CONSULTATION PAPER

In this submission, we provide a brief overview of the climate change health impacts on wildlife as they relate to human health and provide 9 recommendations for the Department of Health and Aged Care's consideration. We strongly agree that the coordination of initiatives relating to climate change and health across Australia is needed, and agree with the 3 capstone issues *viz*:

- Agree **principles, objectives**, and **key action areas** inform national policymaking.
- Increased **collaboration** between jurisdictions and other key stakeholders including the sharing and adoption of best practice approaches and reducing duplication of effort.
- Regular **monitoring, evaluation and reporting** of progress in delivering the Strategy.

WILDLIFE HEALTH AUSTRALIA'S RECOMMENDATIONS

Wildlife Health Australia has 9 recommendations we explain in more detail below.

1. **One Health** is a system wide approach and must be incorporated in policy across government departments. Health in all policies is identified as Objective 4, we suggest it should become the first, in line with global agreement on One Health as the guiding principle for global planetary health.
2. An **additional principle** should be added that explicitly recognises climate change affects wildlife, and that these affects, in turn, also affect human health.
3. **Capacity building and coordination** should be clearly identified in the list of enablers, if necessary, as separate items, or identified within the existing list.
4. Establish a '**climate health system'** that integrates other sectors as part of the climate health workforce e.g., biosecurity and wildlife health.
5. Ensure the **focus on and integration of First Nations knowledge and leadership** is fully implemented.
6. **Communicate widely** issues of wildlife health, to help prevent the spread of climate sensitive infectious disease.
7. **Reduce greenhouse gas emissions** overall, especially implementing ecosystem-based approaches as part of mitigation.
8. **Adaptation through nature-based solutions** is crucial and risk management planning must take an all-hazards approach that includes wildlife, in emergency prevention, preparedness, response, and recovery in climate related disaster events.
9. **Integrate wildlife health disease surveillance and reporting** as a core dimension in climate health disease surveillance systems, especially where there is potential for spillovers from wildlife to people.

BACKGROUND- WILDLIFE HEALTH AND CLIMATE CHANGE

Wildlife Health Australia (WHA) define wildlife as managed and unmanaged populations of native and feral animals, including amphibians, reptiles, birds, and mammals. WHA define wildlife health as the physical, behavioural, and social well-being of wildlife at an individual, population and ecosystem level, and the resilience of wildlife to global change.

Wildlife health is important for the social, cultural, economic, and environmental health and wellbeing of people. Strategies to enhance and promote wildlife health have synergistic physical and mental health benefits for people. Wildlife health is determined by the same suite of issues as human health, and this also extends to the effects of climate change. Examples of specific climate change effects on wildlife health include:

- Infectious disease (such as Hendra Virus or insect-borne disease such as Japanese Encephalitis) due to ecological change, host susceptibility and exposure pathways[1],[2].
- Heat stress affects fertility (including changing sex in e.g., reptiles), metabolic systems, reduced productivity (such as a smaller brood size), oxidative stress, and degraded immune function.
- Extreme weather events (e.g. heatwaves, storms, floods, fires) can change and degrade habitat, food and water security and adversely effects the social structure and behaviour of some species. The bushfires of 2019-2020 caused the estimated loss of 3 billion animals, and since then floods and other extreme weather events have led to ongoing risks to ecosystems. [3,4]
- Pests and associated disease - changing food webs and disease pattern cycles can increase insect pests, toxic algae, parasitic diseases and impacts animal health and food safety.
- Other climate change impacts from ocean acidification, exacerbated biodiversity loss, increased pollutants in water systems, increased salination and drought.[5]

Climate change will also impact the health and welfare of pets, animals in sport, farm animals, zoo, and aquarium animals.[6]

DETAILED COMMENTS

Wildlife Health Australia supports the need for a national One Health approach to health and climate change.

PRINCIPLES

WHA agrees overall with the principles. However, given that health of wildlife, and proper functioning of the ecosystems of which wildlife form part, are affected by climate change, and linked to human health.WHA suggests an additional principle should be included for non-human species.

[1] Vitali, S & Jackson, B 2023 Finding a path through complexity; embedding the science of climate change in the study of animal infectious diseases *in* Stephen, C and Duncan (eds) 2023 Climate Change and Animal Health, CRC Press, Taylor & Francis Group. DOI:10.1201/9781003149774
[2] IPBES. (2020). Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services. Retrieved from Bonn, Germany: https://ipbes.net/pandemics
[3] Sherwen, S *et al.,* (2023). Chapter 26: Wildlife welfare and the 2019–20 wildfires**.** *Australia's Megafires: Biodiversity Impacts and Lessons from 2019-2020. In:* van Leeuwen S et al (Eds.) (2023). **Australia's Megafires: Biodiversity Impacts and Lessons from 2019-2020.** CSIRO Publishing.
[4] Australian State of Environment Report 2021 section on extreme events: https://soe.dcceew.gov.au/extreme-events/introduction
[5] See Stephen, C & Duncan (*eds*) 2023 Climate Change and Animal Health, CRC Press, Taylor & Francis Group. DOI:10.1201/9781003149774
[6] Vets for Climate Action. 2021. Climate Facts for Vets. Available from https://d3n8a8pro7vhmx.cloudfront.net/vfca/pages/325/attachments/original/1644209261/Climate_Facts_for_Vets_October_2021.pdf?1644209261

ENABLERS

WHA agrees with the list of enablers. We suggest that capacity building and coordination be clearly identified in the list of enablers, if necessary, as separate items, or identified within the existing list.

HEALTH IN ALL POLICIES AND ONE HEALTH

WHA notes that the Consultation Paper commences with an overview of climate change including ecological impacts to people's health and wellbeing and recognition that climate change affects multiple sectors requiring a Health in All Policies (HiAP) framework. WHA is encouraged by the recognition of the One Health approach as an example of how the HiAP can be operationalised under the remit of the Australian Centre for Disease Control (ACDC). Furthermore, the One Health approach should be implemented through a system wide approach, and in the Australian context, considered within the remit of Ministries across all governments, led by the commonwealth.

A good example of the One Health approach in action is the recent national response to the Japanese encephalitis virus. Through WHA networks and strong partnerships, within one month of the first detection of Japanese encephalitis virus in south-eastern Australia, WHA in 2021, in collaboration with the (then) Australian Department of Agriculture, Water and the Environment held a series of national meetings to draw upon the expertise of waterbird experts to ensure surveillance and response activities relating to the current Japanese encephalitis outbreak were well-informed. Resulting data were shared with Communicable Diseases Network Australia (CDNA), Consultative Committee for Emergency Animal Diseases (CCEAD) and National Arbovirus and Malaria Advisory Committee (NAMAC). Information shared through these networks, resulted in a report on the climate driven scenarios of Japanese encephalitis virus spread, helping to plan timely and effective public health strategies and communication.[7]

A CLIMATE HEALTH SYSTEM

Understandably the Consultation Paper has an anthropocentric view of health e.g., focusing on human health sector mitigation. However, given the multiple interrelated and coinciding planetary health effects, a fit-for-purpose 21st century health system must encompass more than the current remit of the human health system. Through an anthropocentric health lens, it makes sense to include health service providers, allied health, aged care, and First Nations Service providers and those in human health policy and research in a more integrated way. But focusing solely on human health ignores the ecological determinants of health and wellbeing and the disciplines, sectors and industries associated with them.

WHA see the National Health and Climate Change Strategy as an opportunity to transition from a human health system solely focusing on human health to a "climate health system" which broadens from not only what we understand is a "health system" but also to who is part of the health workforce.

A climate health system looks beyond human health and integrates other sectors, such as wildlife health system (e.g., animal health service providers, surveillance, epidemiologists, feral animal health management, wildlife rehabilitators, to name only some components of this system) and environment

[7] Purnell, C (2022). The role of waterbirds in Australia's 2022 Japanese Encephalitis outbreak Unpublished – a rapid synthesis. BirdLife Australia, Carlton. https://wildlifehealthaustralia.com.au/Portals/0/Documents/Ongoing Incidents/Role_of_waterbirds_Aus_2022-JEV-outbreak_RapidSsynthesis_BirdLifeAustralia.pdf

protection, and natural resource management as key dimensions. It follows then that the objectives in the National Health and Climate Change Strategy will apply to these disciplines, sectors, and industries.

ALIGN CLIMATE, HEALTH, AND ENVIRONMENT POLICY AGENDAS

In line with HiAP thinking, the National Health and Climate Change Strategy needs to align the climate change, human health, and biodiversity policy agendas from state and territory to national (e.g. the Nature Positive Plan, National Aboriginal Health Plan 2021-2031, National Biosecurity Strategy 2022-2032 and WHA's strategic vision the WILDPlan) and international perspective (such as the Quadripartite Agreement One Health Joint Plan of Action, the Paris Agreement under the UN Framework Convention on Climate Change and the Kunming-Montreal Global Biodiversity Framework of the UN Convention on Biological Diversity; relevant decisions and plans of the Convention on Endangered Species of wild Flora and Fauna (CITES), and relevant Sustainable Development Goals). The Australian Government's Measuring What Matters Wellbeing Strategy for example has biodiversity indicators. These indicators note that "a loss of *biodiversity threatens the capacity of our environment to sustain and provide clean air, water, medicines and is contributing to the emergence and transmission of disease"* and aligns with biosecurity risks from the changing patterns of infectious climate sensitive disease.

PROMOTE AND PROTECT WILDLIFE HEALTH TO PREVENT THE SPREAD OF CLIMATE SENSITIVE INFECTIOUS DISEASE AND REDUCE GREENHOUSE GAS EMISSIONS BY IMPLEMENTING ECOSYSTEM-BASED OR NATURE-BASED SOLUTIONS AS PART OF MITIGATION AND ADAPTATION

Biodiversity, or biological diversity, is the variety of life on our planet from genes to ecosystem. Climate change is one of several interrelated factors affecting biodiversity and is amplified by other stressors e.g., land use changes, waste and pollution, and urban development. But human survival is dependent on ecosystem services (clean air, water, fibre, food, medicines, and climate control) that form our life support system. Functioning ecosystems act as carbon sinks by absorbing greenhouse gases. As such, conserving, managing, and using sustainably biodiversity on land and water is essential for mitigating greenhouse gas emissions, helping in adaptation strategies to change already "baked into" the biosphere thereby reducing impacts from climate change on human (and wildlife) health. Ecosystem-based/nature-based solutions are as equal, complementary to, and often more cost effective and efficient approaches to the greenhouse gas emissions reduction strategies suggested in the National Health and Climate Change Strategy.

ADAPTATION AND RISK MANAGEMENT- AN ALL-HAZARDS APPROACH TO EMERGENCY PREVENTION, PREPAREDNESS, RESPONSE, AND RECOVERY FROM CLIMATE RELATED DISASTER EVENTS

WHA support a National Climate Risk Assessment and a National Adaptation Plan but suggests the risk assessment and adaptation plan integrate wildlife health risks, meeting and developing skill sets to deal with adaptation, and ensuring Australia has sufficient capacity to implement adaptation strategies. WHA also supports a nationally consistent approach to vulnerability assessment and adaptation planning for Australia's climate health system. Such a national approach must include issuing guidance and associated implementation support tools for states, territories, and local health systems. WHA can support disease risk analysis that aligns with the Australian Institute for Disaster Resilience. Specifically, WHA is designated by the World Organisation for Animal Health (WOAH, formerly OIE) *Collaborating Centre of Wildlife Health Risk Management* for the Indo-Pacific.

Following the 2019/2020 bushfires in Eastern Australia, WHA undertook a review to identify gaps in the emergency response for wildlife health. WHA identified the need for the incorporation of wildlife health and welfare response as a standard component of disaster response arrangements and the development of a nationally accredited training program for wildlife responders to operate in the incident response system (e.g., Australasian Inter-Service Incident Management System - AIIMS).

ENHANCE BIOSECURITY AND WILDLIFE HEALTH

Over 60% of the emerging infectious diseases in people are of zoonotic or animal origin. The majority of these (around 70%) originate in wildlife. Climate change is an additional driver of zoonotic disease emergence, especially when coupled with land use change, wildlife trade, and intensified livestock production. This interconnection of multiple drivers is occurring simultaneously and is non-linear.

Given the current and growing importance of wildlife in public health disease risk, there is a clear need for high-level incorporation of wildlife expertise and data into public health strategies. WHA strongly supports the World Health Organization view that to address the emerging zoonotic disease threats to public health requires a strategic approach for predicting, detecting, and controlling these infections through an integrated and interdisciplinary approach between the animal and human health sectors.

WHA is aware that the ACDC plans to embrace a One Health approach that will incorporate wildlife health. To complement this plan, wildlife health and animal health must be recognised as core dimensions in the National Health and Climate Change Strategy.

FIRST NATIONS MITIGATION AND ADAPTATION LEADERSHIP

WHA note that First Nations peoples are included in the National Health and Climate Change Strategy through recognition of co-design, self-determination, cultural safety, and a strengths-based approach. WHA feels this should be an activity described in the objectives in the National Health and Climate Change Strategy. WHA are encouraged to see that there will be synergies with Priority 7 of the National Aboriginal Health Plan 2021-2031, 'Healthy environments, sustainability, and preparedness'. Examples here include the use of cultural burning cultural water management and "Caring for Country" land management practices. A detailed assessment of policy gaps has been provided in the Lowitja Institute Climate Change and Aboriginal and Torres Strait Islander Health Discussion Paper[8]. Gaps include participating in assessment of climate change impacts on communities and their consequences and working with communities to develop local adaptation and mitigation plans.

WHA RECOMMENDATIONS

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[8] HEAL Network & CRE-STRIDE 2021, Climate Change and Aboriginal and Torres Strait Islander Health, Discussion Paper, Lowitja Institute, Melbourne, DOI:10.48455/bthg-aj15

3. **Capacity building and coordination** should be clearly identified in the list of enablers, if necessary, as separate items, or identified within the existing list.
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ABOUT WILDLIFE HEALTH AUSTRALIA

Wildlife Health Australia is the national coordinating body for wildlife health in Australia. Our mission is to lead national action on wildlife health to protect and enhance the natural environment, biodiversity, economy and animal and human health through strong partnerships. We work with up to 120 different government and non-government agencies and organisations and play a key consultative role in Australia's animal disease and biosecurity networks. Our membership operates as a network of forty member organisations and over 750 individual members. This includes government agencies (including environment, health, and agriculture portfolios) and non-government partners (including universities, independent researchers, zoos and aquariums, private veterinarians, and rehabilitators).

More information on Wildlife Health Australia is available at: http://www.wildlifehealthaustralia.com.au.