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Nature Conservation Saves for Tomorrow

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Natural Resources Commission
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Blue Mountains Conservation Society Submission on the NSW Invasive Species Management Review.

Blue Mountains Conservation Society (the Society) has a long-standing interest in the protection and effective management of the Greater Blue Mountains World Heritage Area (GBMWHA) and its constituent conservation reserves. The Society is a community-based volunteer organisation with over 900 members, so we are a strong voice for nature. Our mission is to help protect, conserve and advocate for the natural environment of the Greater Blue Mountains.

Section 1

Summary of main ideas

The points contained in this summary are further fleshed out in the discussion of each question starting on page 4 below.

The GBMWHA covers over one million hectares and is composed of eight reserves: (Blue Mountains National Park, Gardens of Stone National Park, Jenolan Karst Conservation Reserve, Kanangra-Boyd National Park, Nattai National Park, Thirlmere Lakes National Park, Wollemi National Park, Yengo National Park). This area is bisected by the western railway line from Sydney and the Great Western Highway which form a corridor on ridgelines extending for about 60 kilometres east to west. Towns and villages run along both sides of the corridor. Bell's Line of Road also cuts across the GBMWHA from Richmond to Lithgow, with residential and rural properties reaching into bushland. Travellers use this road as an alternative to the Great Western Highway.

These wide and elevated urban and rural interfaces creates many opportunities for invasive species if not well-managed.

Q 1 To what extent are the NSW environment, industries and communities currently impacted by invasive species?

Invasive species are having an increasingly severe and detrimental effect on the NSW environment, agriculture, industries and communities. Across NSW, different invasive species are present in farmlands, urban areas, protected areas and waterways as well as marine habitats. This includes the Greater Blue Mountains World Heritage Area (GBMWHA). The costs of managing invasive species are enormous and rising.

The Society acknowledges that invasive species have an ongoing detrimental impact on the GBMWHA and surrounding areas.

Q 2 To what extent do you think existing programs in NSW are effectively managing invasive species?

The Society acknowledges that the NSW Government is working on enhancing programs to address invasive species but also that current research data shows the numbers and impact of invasive species is rapidly increasing, hence the current regulations and strategies are failing to manage invasive species. The long-term impact on Australia's unique environment, its wildlife and its people will be devastating and costly. Species once lost cannot be recovered.

Q 3 What, if any, are the key barriers to effective management of invasive species?

The Society submits that barriers to achieving biosecurity goals are broad and include:

- Low aspiration in dealing with the problem of invasive species.
- Weak regulation and low rates of enforcement of existing regulations.
- Poor community understanding of the issues, with low levels of education and communication with the public about biosecurity issues.
- Increase in online trading of alien and invasive species both nationally and internationally.
- Changes in climate increasing the risk of intense bushfires, the severity of drought and unpredicted intense rainfall events.
- Insufficient funding for implementation of the government's biosecurity strategy which aims to prevent new species arriving, eradicate small incursions, contain and manage alien species.
- Lack of cohesive strategies, inconsistent approaches across government bodies and landholders, and failure of various government departments owning land to effectively manage weed and pest control.
- Shortage of skilled and qualified workers to work on weeding, which is closely tied to the reliance on contractors and casual, seasonal contracts rather than full-time work.
- Insufficient knowledge about the biology of invasive species making effective action difficult.
- Insufficient research on issues related to biosecurity, including the outcomes of programs implemented and insufficient evaluation of the results with changes made to actions taking a long time to devise and implement.

Q4 How has invasive species management changed since the introduction of the NSW Biosecurity Act 2015 legislation and associated programs and plans?

The plans and programs associated with the NSW Biosecurity Act 2015 are numerous and diverse and are aimed at engaging landholders and the broader community in the work that needs to be done to manage invasive species. These are accessible on the Department of Primary Industries (DPI) website and perhaps other places.

There are "New Biosecurity Initiatives" including a baseline study showing the extent of invasive species in NSW, the legislation of an Independent Biosecurity Commissioner who will provide independent advice to the NSW Government, engage stakeholders and report annually to Parliament, and a "Good Neighbour Program" to tackle pest and weed infestations.

The Society is of the view that these are good initiatives but we wait to see if they have a sufficiently positive impact on the issue. The mapping of the current extent of invasive species is crucial in determining the best methods of their management.

Changing the term "noxious" to "priority" has led to a downgrading in people's minds of the risks and severity of the threat caused by invasive weeds. This has further resulted in an increased difficulty in getting community co-operation on weed control, and weeds are now seen as LESS of an issue.

Q5 What are the future risks posed by invasive species to the NSW environment, industries and communities?

Failing to effectively manage invasive species exacerbates the risk of extinction of native flora and fauna, an increasingly impoverished natural heritage and collapsing ecosystems. We would fail to meet our international obligations and leave an appalling legacy for future generations. In addition, it will impose excessive additional costs on the agriculture industry, local councils and local landholders who will have to manage the impacts on their own land and the Government in management of impacts on public land.

Increase incursions of weeds into the GBMWHA poses a threat to the intact nature of its vegetation communities and hence the fauna dependent upon it. The Society is of the view that we need to do everything possible to ensure that invasive species are effectively controlled.

Q6 What opportunities do you see to improve the outcomes of invasive species management in the future?

The Society is of the view that there are numerous opportunities for improvement, which include:

- Implementation of an inspirational vision, bold goals and strong action from government to eliminate and manage the impacts of invasive species, putting the health and wellbeing of ecosystems and the Australian environment at the centre of their goals.
- Governments should investigate highly aspirational international efforts for eliminating and managing invasive species such as the "Predator Free 2050" program in Aotearoa (New Zealand) led by the Department of Conservation.[1]
- Provide increased levels of funding to eliminate and manage risks, including fully-funding workers to contain or eliminate pest animal species and perform bush regeneration. Funding must go well beyond one year, depending on the species.
- Ensure that all NSW Government departments, local councils and agencies accept that this is a serious social responsibility and implement effective programs which address weeds in their areas of accountability.
- Develop SMART (Specific, Measurable, Achievable, Relevant, Time-bound) goals, that are evaluated annually and necessary changes made to keep on track with the targets and communicated to the community.
- Prioritise the effective education of the community.
- Greater encouragement of community in all areas to participate in the work needed to manage invasive species and the provision of appropriate funding, support and training.

[1] https://www.doc.govt.nz/nature/pests-and-threats/predator-free-2050/

- Fully fund high levels of scientific research into invasive species, their impacts and methods of control.
- Increase restoration of cleared and degraded land to rebuild habitat and corridors which allow movement of species between reserves and where available, restored farmland.
- Coordinate efforts from all levels of government (federal, state, local) and other relevant organisations in preventing entrance into Australia (and NSW), regulating, researching and managing invasive species and their impact.

Section 2
Further discussion of questions

Question 1 To what extent are the NSW environment, industries and communities currently impacted by invasive species?

Whilst acknowledging the severe detrimental effect of invasive species state-wide and the need to have effective mechanisms for addressing all these impacts, this submission focuses mainly on the invasive species present in the Greater Blue Mountains World Heritage Area (GBMWHA).
The current Environmental Protection Authority report "NSW state of the environment"[2] includes the following as impacts:

- Pest animals and weeds threatened more than 70% (perhaps as high as 82%) of threatened species and endangered ecological communities in NSW. This is unchanged since 2018.
- Invasive species contribute significantly to the extinction of animals in NSW e.g. predation by foxes and cats impact survival of small to medium ground-dwelling fauna.
- 25 of the 47 Key Threatening Processes listed in NSW related to the impacts of weed and pest animal species and a further four to pathogens.
- The impact of introduced species on biodiversity and the environment has been poorly researched. The impacts on the environment are substantial and include: soil degradation, landscape and habitat disturbance, structural change, decline in vegetation condition and changes to watercourses and water quality.
- Invasive weeds account for an estimated $1.8 billion in lost agricultural production annually. The impacts of pest animals are estimated to be more than $170 million annually.

Further concerning statistics show that:

- Over 1,750 introduced plants have been recorded in NSW, and 340 are threats to native biodiversity. In fact, it is estimated that weeds account for 21% of total vegetation cover of NSW[3]
- In NSW, 64 species of introduced terrestrial and freshwater animals have established wild populations. Introduced fish species make up about 25% of freshwater species in the Murray-Darling Basin in 2009. It is unknown how many invertebrates have been introduced into Australia or NSW.

[2] https://www.soe.epa.nsw.gov.au/all-themes/biodiversity/invasive-species#:~:text=Invasive%20Species%201%20Summary%20Pest%20animals%20and%20weeds,Status%20and%20Trends%20Categories%20of%20invasive%20species%20

[3] DPI 2018 New South Wales State of Biosecurity Report, Department of Primary Industries, Sydney.

The Greater Blue Mountains World Heritage Area

The Australian Government's Department of Climate Change, Energy, the Environment and Water (DCCEEW)'s document on "The Greater Blue Mountains Area"[4] has previously listed as "Very High" the threat status to the Greater Blue Mountains Area (GBMA) in the following categories: density of pest species, pest impact level, invasions fronts/range boundaries, weed density. Key threats and impacts from the following pest species either present or potentially present are listed: carp, red fox, rabbit, feral cat, feral deer, feral donkey, feral goat, feral horse, feral pig, Indian Myna, Gambusia (mosquitofish), Red-eared Slider Turtle, rodents, Oriental Weatherloach, wild dog. These pest species impact a range of matters of National Environmental Significance and pest management actions are listed in recovery plans for many threatened species of plants and animals.

Foxes

Widespread across NSW, foxes have contributed to severe declines and extinctions of native fauna and continue to threaten remnant populations of threatened species. Foxes are widespread in the Blue Mountains and in addition to their impact on wildlife and flora, they also kill domestic animals including chickens. Foxes eat the fruit of weeds such as blackberry and spread their seeds. The Blue Mountains City Council (BMCC) has a program in place to assist residents manage foxes in the urban area.[5] Their impact increases after reduction of vegetative cover such as after bushfires.

Recommendation: That the Local government programs for fox control receive ongoing financial support from the NSW Government, not grant funding.

Cats[6]

There is considerable evidence that feral cats have a significant impact on ground birds and small native mammals and reptiles, particularly in arid regions of NSW. They are found across 99% of Australia. Scientists estimate that Australia is home to 6.5 million cats, 2.8 million being feral cats.[7] Scientists also estimate that cats kill over 2 billion animals a year, mostly native species. They are a recognised threat to 74 mammal species, 40 bird species, 21 reptiles and 4 amphibian species.

The removal of vegetative cover by clearing and bushfires means a loss of places for animals to hide themselves or hide their nests from predation by cats. When populations are in decline, or restricted in range, predation by cats on the remaining individuals can cause the population to become extinct.

There is a need to develop new technologies to target and deal with cats including genetic technologies, and also methods to keep domestic cats contained so they do not exacerbate the problem in urban areas near to bushland.

[4] https://www.dcceew.gov.au/sites/default/files/env/resources/2abc2d6b-d518-44d4-87c0-a1f2f9638a56/files/mainland-islands-greater-blue-mountains-area.pdf

[5] https://www.bmcc.nsw.gov.au/sites/default/files/docs/JUNE2020_Fox_FactSheet.pdf

[6] https://www.environment.nsw.gov.au/topics/animals-and-plants/pest-animals-and-weeds/pest-animals/feral-cats

[7] https://www.theguardian.com/commentisfree/2022/aug/12/its-time-australia-recognised-cats-and-their-impact-as-a-major-environmental-issue

Blue Mountains City Council and the Society have recognised the risk to wildlife of roaming cats in the GBMWHA and campaigns to have owners keep cats at home.[8] However, this is not adequate. The BMCC and other local councils need to have the power to regulate and contain roaming cats.

Recommendation: That the Companion Animal Act be amended to allow local Councils to regulate and contain roaming cats.

Feral Deer[9]

The degradation to the environment caused by feral deer is listed as a Key Threatening Process in NSW and they are now found in the Blue Mountains National Park. BMCC has backed the deer free GBMWHA[10]. There are five species of deer with feral populations in NSW: Fallow Deer, Red Deer, Sambar Deer, Chital Deer, Rusa Deer. There is a sixth species the Hog Deer, which has been recorded in NSW. The deer destroy native plants, foul waterholes, cause soil erosion, transmit disease, spread weeds and increase the risk of accidents with motorists. They are also increasing in number and their invasion range is expanding by 1 million hectares per year. Deer are a problem to both natural areas, agriculture and people's gardens. Deer on roads are a danger to motorists.

Feral Pigs[11]

Feral pigs are found throughout NSW, preferring to live in wetlands, floodplains and watercourses. In the Greater Blue Mountains a pig was trapped in the village of Lawson in the mid-mountains in 2021.[12]

Damage caused by pigs includes creating drainage channels in swamps (e.g. the Paroo – Cuttaburra rivers and associated swamplands; these swamplands are crucial for migrating waterbirds and are RAMSAR listed); soil erosion and fouling waterways, eating small vertebrates both wild and domestic, spreading weeds and disease. They also damage fences on property and damage swamplands that are used by migratory waterbirds, and rare mound springs in western NSW.

In the GBMA, pigs impact the following areas of National Environmental Significance: Temperate Highland Peat Swamps on Sandstone, White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (see footnote 4). NPWS has a management strategy in place for dealing with feral pigs in the southern Blue Mountains which includes wilderness areas which are part of the GBMWHA.

Feral Goats

The feral goat is established in a variety of habitats across Australia. It competes with native fauna and its grazing habitats cause land degradation, threatening plant and animal species and ecological

[8] https://www.bluemountainsgazette.com.au/story/8328800/now-we-need-the-state-government-to-act-council-urges-greater-cat-control-powers/

[9] https://www.environment.nsw.gov.au/topics/animals-and-plants/pest-animals-and-weeds/pest-animals/feral-deer

[10] https://invasives.org.au/media-releases/council-backs-deer-free-blue-mountains-world-heritage-area/

[11] https://www.environment.nsw.gov.au/topics/animals-and-plants/pest-animals-and-weeds/pest-animals/feral-pigs#:~:text=What%20are%20feral%20pigs%3F,wetland%2C%20floodplain%20and%20watercourse%20environments.

[12] https://www.bluemts.com.au/news/feral-pig-captured-in-lawson/

communities.[13] Feral goats are present in the Blue Mountains as well and there are signs warning motorists to be aware of goats on the road.

Feral Horses

The poor management of the issue of feral horses in Kosciusko NP shows how easily feral animals can cause a serious problem in a few years. The aim with horses should be elimination from the GBMWHA as a priority. The feral horses in the Gardens of Stone State Conservation Area have now been removed and any other feral horses need also to be eliminated. Otherwise, this will be an ongoing problem which will continue to degrade this fragile area.

Aquatic animals

These include pest species of fish.[14] The fish that are most concerning in their effect on the Blue Mountains waterways include the **Brown Trout, Gambusia and Red Fin.** The fish compete with native fish and have an impact on the habitat by affecting water quality, they carry diseases and parasites, they change the diversity of plants, aquatic insects, alter food chains and increase nutrient loads. Brown Trout are further discussed under Question 4.

Red Fin Perch have also been released in Wentworth Falls Lake and to other waterways in the Central Tablelands. This most likely was the work of recreational fishers. There is concern that this destructive fish will escape the lake and make its way into the creeks and rivers in the WHA. The Red Fin Perch are already in Warragamba Dam and it is imperative that they are managed or preferably eliminated to ensure they do not make their way into the upper reaches of the rivers that flow into Lake Burragorang.

Weeds

There are many weeds of national significance that are in the Blue Mountains, particularly concentrated near built-up areas near villages and housing developments. The invasive weeds are particularly problematic around the Hawkesbury LGA, along the roadways and expressways, the Nepean River, Hawkesbury River and Yarramundi River. They are similarly problematic in the Penrith LGA along the M4 expressway and the Great Western Highway leading up into the Blue Mountains LGA, up as far as at least Lawson. These weeds crowd out native species, change the chemistry of the soil, destroy the habitats for native plant species and prevent native animals from being able to utilise the habitat.

The weeds include: Madeira Vine, Lantana, Blackberry, Scotch Broom, Japanese Honeysuckle, Broad-leaf Privet, Narrow Leaf Privet, Cape Ivy, Balloon Vine, Bridal Creeper, Turkey Rhubarb.

There are also several weed infestations of State Priority Weeds including: *Asparagus densiflorus,* Gorse, Willow and Local Priority Weeds including Box Elder, Cootamundra Wattle, Cotoneaster, English Holly, Montbretia, Rhizomatous Bamboo, Spanish Heath, Agapanthus, Arum Lily, English Ivy.

These weeds escape from established invasions or gardens, but also invade areas where the pH of the water or soil has changed due to water run-off from roads and buildings, or increased levels of nutrients from gardens or parklands and golf courses. Weeds are also spread by birds ingesting seeds.

[13] https://www.dcceew.gov.au/sites/default/files/documents/feral-goat.pdf

[14] https://www.daf.qld.gov.au/__data/assets/pdf_file/0011/61031/Stop-the-spread-Module-1.pdf

Living on the Edge Local Land Services five-year project started in 2018 to address Key Threatening Processes affecting GBMWHA. https://www.lls.nsw.gov.au/regions/central-tablelands/key-projects/living-on-the-edge

The project has key targets relating to:

- activity levels of priority invasive animals in the GBMWHA,
- reduce the spread of priority invasive plants and increase native vegetation by 50%,
- organising community action to increase the management of threats to Outstanding Universal Values from invasive plants and animals by 25%
- community awareness of threats increased by 50%.

Parts of the GBMWHA need regular weeding resulting from continued influx of weeds from the surrounding urban and rural lands, which is not managed. The Grose River is one example where it is difficult for volunteers and grant-funded contractors to contain the infestations.

Question 2 To what extent do you think existing programs in NSW are effectively managing invasive species?

The data shows that the impact of invasive species is worsening, hence the programs overall have not succeeded in management of invasive species.

In the Blue Mountains there is no effective program for managing English and Montpellier broom (*Cytisus scoparius* and *Genista monspessulana*) along the lands of the railway line or the Great Western Highway. These transport corridors have become vectors to spread weeds between Sydney and the Central West and everywhere in between. This main transport corridor is also the headwaters of creeklines which flow into the surrounding (GBMWHA) taking weed seeds deep into the area. There is little or no data nor understanding about how far these seeds spread once they enter the creeklines.

This is also the case in the Greater Blue Mountains World Heritage Area. The Blue Mountains Gazette published a story dated 21 March 2023, with the headline “Feral animals wreaking havoc on NSW properties: farmers”[15] in which they listed pigs, deer and goats “running out of control in NSW”. They blame the lack of effective control on public lands which is undermining farmers’ efforts to control pests and weeds.

For example, pig numbers have skyrocketed across the state. Local Land Services have instituted a 2023-2024 $13 million Feral Pig Program in an effort to reduce the numbers of feral pigs across NSW[16]. The Central West (which contains areas of the GBMWHA) is part of this focus. It has been estimated that feral pig numbers across the state have tripled in the last three years, with an aim to remove 87,000 pigs over 8 months.[17] Feral deer population is about 2 million and is spreading at about 1 million hectares per year. The feral horse population in Kosciusko NP is now over 18,000 horses.

Invasive weeds are expanding in bushland and farmland, gardens, roadsides, railway corridors and along beachside cliff lines and disturbed dunes. New species of alien flora and fauna continue to arrive in the country, often by unregulated online sales.

[15] https://www.bluemountainsgazette.com.au/story/8128703/feral-animals-wreaking-havoc-on-nsw-properties-farmers/
[16] https://www.lls.nsw.gov.au/what-we-do/our-major-projects/feral-pig-program
[17] https://www.abc.net.au/news/2023-10-22/feral-pig-numbers-tripled-in-three-years/103001416?utm_campaign=newsweb-article-new-share-null&utm_content=link&utm_medium=content_shared&utm_source=abc_news_web

Question 3 What, if any, are the key barriers to effective management of invasive species?

Complexity of regulations under different acts

Regulations are poorly known by the general public, e.g. keeping of aquarium fish. No ordinary member of the public is going to look up the DPI site to find out if the fish they intend to acquire is a prohibited fish. Nor will they have read the webpage on the DPI[18] site on "Aquarium owners and trade" to learn that dumping of pet fish is an illegal act under Section 11 of the Prevention of Cruelty to Animals Act 1979, or that releasing fish into NSW public waters is illegal under the Fisheries Management Act.

The NSW Gov needs to devise better methods of informing the public of their responsibilities under the Law perhaps by requiring pet shops or dealers in aquarium goods to provide this information prior to a purchase. Additionally, there needs to be increased monitoring of internet sales to prevent the rise in the trade in fish not already in the country or the state.

Which members of the public know that some freshwater pests are notifiable under NSW legislation? And that you have a duty or legal obligation to notify authorities if you know or suspect the occurrence of one of these pests? Why would people know this? If I purchased a hobby farm with a small dam, which the previous owner had stocked with Redfin, who is going to tell me what kind of fish these are and that I need to notify their presence in my dam?

Lack of understanding or concern from the broader community. People play a large part in the introduction of new invasive species and the spread of existing invasive species. There is a general lack of understanding amongst the population about the risks of alien species in Australia and their legal obligations in relation to them.

It is too easy for people to purchase goods online from overseas and import them into the country; these purchases may contain potential threats such as plant parts, seeds, fungi or bacterial diseases. There is also a growing international trade in non-vertebrates and Australia is part of this both in the export and the import.

Unregulated online national and international trade in plants and animals.

A paper published in 2023 in the journal Austral Entomology states:

"The trade and keeping of exotic pets has serious implications for both biosecurity and biodiversity conservation. In Australia, the online trade of live invertebrates is an understudied and unregulated issue, with almost non-existent monitoring." [19]

Another paper published in 2023 in NeoBiota states:

"Invasive plants seriously impact our environmental, agricultural and forestry assets, and the ornamental plant trade is a major introduction pathway. The variety and extent of the ornamental plant trade is growing in reach and is increasingly facilitated by the internet (i.e., through e-commerce). A lack of surveillance and regulation of e-commerce has resulted in invasive species being widely traded on these platforms."[20]

Departments need to accept responsibility of weed and pest control on the land.

In the Blue Mountains, the NSW Rail should instigate an ongoing program to control the weed Broom which grows along the rail corridor. It appears that some treatment occurs in the last three months of the financial year, with the treatment done by spraying mature plants which have few

[18] https://www.dpi.nsw.gov.au/fishing/aquatic-biosecurity/aquarium-owners-and-trade
[19] https://invasives.com.au/wp-content/uploads/2023/10/Austral-Entomology-2023-Lassaline-Untangling-the-web-dynamics-of-Australias-online-terrestrial-invertebrate-trade.pdf
[20] https://invasives.com.au/wp-content/uploads/2023/08/Characterising-illegal-online-trade-of-invasive-plants-Cassey-P.pdf

leaves. The treatment does not kill the plants and so it flowers again the following year. These plants produce seeds that are known to be viable for over 60 years. Thus, there is no progress made on containing this weed and it spreads from the railway corridor into the villages and bushland.

The employment structure for weeders and bush regenerators - casual, contract and seasonal – means that workers may not have employment over winter or on wet days when they cannot work. The lack of permanency or career structure is not attractive to people needing security and a secure income so it is difficult to fill jobs.

Climate and climate change. The recent La Nina event bringing three wet years has allowed weeds to expand greatly into bushland, roadsides, along rivers and creeks, into private property and protected areas. This when combined with the impact of COVID and restriction of movement of people (including to perform bush regeneration activities), has led to an explosion of invasive weeds. This wet weather is also responsible for the increase in spread of other invasive species. For example, following the last three years of major flooding along the Hawkesbury River at Yarramundi, near Agnes Banks, the Casuarina trees in the river were literally flattened and the riverbanks severely eroded and disturbed. This allowed an enormous influx of weeds to become established. These kinds of events make it difficult for local authorities to manage the weeds.

This same wet weather has also provided conditions for the expansion and increase in pig numbers.

Wildfires – the 2019/2020 fires destroyed large areas of habitat and in some areas allowed the spread of weed seeds. It also removed ground level habitat which provided protection from foxes and cats for small mammals, birds and reptiles across large areas.

NSW management strategies need to take into account these increasingly unpredictable weather events and changes to climate if they hope to be effective in the future.

Recommendation:

- ***Tightening of the importation and sale of alien and invasive species, including online.***
- ***Make it easier for people to find out what their responsibilities are in relation to biosecurity.***
- ***All government departments need to take responsibility to control weeds on their land through a long-term strategy and funding that goes beyond one year.***

Question 4 How has invasive species management changed since the introduction of the NSW Biosecurity Act 2015[21] legislation and associated programs and plans?

New Biosecurity Initiatives[22]

Detailed new Biosecurity initiatives shown on the website include:

- Natural Resources Commission is conducting a baseline study showing the extent of invasive species in NSW.
- Legislating an Independent Biosecurity Commissioner
- Allocating $10 million to a “Good Neighbour Program” to tackle pest and weed infestations.

The aim of these initiatives is to enhance the resilience of the biosecurity framework, protect our environment, biodiversity, economy and community from the harmful impacts of pests and weeds.

These are welcome goals.

[21] https://legislation.nsw.gov.au/view/html/inforce/current/act-2015-024

[22] https://www.dpi.nsw.gov.au/biosecurity/managing-biosecurity/new-biosecurity-initiatives

Amendments to the Biosecurity Act 2015[23]

On 19 October, 2023 a bill was introduced into Parliament to establish NSW's first independent Biosecurity Commissioner. This is a welcome initiative that aims to strengthen the impact and accountability of the NSW Biosecurity programs. Further, the commissioner will:

- Engage with stakeholders
- Provide independent and impartial advice to NSW Government on the effectiveness of the program
- Report annually to Parliament on their work and the opportunities for improvement in controlling invasive species.

This initiative will only be effective if there is "frank and fearless" advice, transparency and integrity in the role and reporting to both Parliament and to the public. The commissioner needs to ensure that there is also sufficient focus not just on agriculture and protecting landholders, but also the protection of the natural environment of NSW from the devasting effects of invasive species.

It will also only succeed if there is increased, sufficient funding provided to biosecurity issues and to eliminate and manage pest and weed species, and sufficient education provided to the community in a way that **actually reaches the community members**.

The DPI website "Biosecurity and food safety" [24] contains useful information about biosecurity initiatives, people's roles and responsibilities, and strategies that are useful for communities and schools, people travelling, landholders and others. The information is easy to understand, and the website includes details of how to report a biosecurity concern, including a simple, online form.

DPI Weedwise[25] is a useful internet resource with clear information, excellent photographs for identification and can be accessed by members of the public as well as researchers and used to identify a wide variety of weeds, including weeds of national significance, and information to learn how to control them.

A number of Biosecurity Act 2015 factsheets[26] have been published by the Department of Primary Industries. These factsheets are very useful although it is unfortunate that they are not widely used by the public and most people would not be aware of their existence. It is also unfortunate that these Factsheets do not cover a wider range of topics e.g. cats, fish, deer, garden ornamental plants and so there is scope for their expansion.

Example of factsheets include:

- Weed management on roads[27],
- Weeds[28],
- Bushwalking[29].

[23] https://www.nsw.gov.au/media-releases/biosecurity-commissioner-bill

[24] https://www.dpi.nsw.gov.au/biosecurity

[25] https://weeds.dpi.nsw.gov.au

[26] https://www.dpi.nsw.gov.au/biosecurity/managing-biosecurity/legislation/factsheets

[27] https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0007/798775/Factsheet-Weed-management-on-roads.PDF

[28] https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0008/722897/Weeds.pdf

[29] https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0007/723517/Bushwalking.pdf

Section 371 NSW Biosecurity Act 2015 states the following:

371 Functions of local control authority

(1) A local control authority has the following functions, in relation to the land for which it is the local control authority—

(a) the prevention, elimination, minimisation and management of the biosecurity risk posed or likely to be posed by weeds,

(b) to develop, implement, co-ordinate and review weed control programs,

(c) to inspect land in connection with its weed control functions,

There are very important requirements of Local councils to manage weeds in their area and along local roads. Where Local Councils boarder bushland or National Parks, the control of weeds along roadways helps to stop the spread into the bushland. This is particularly important where there is a lot of motor traffic, or tourists and bushwalkers.

The Greater Blue Mountains World Heritage Area lies in several different council areas, and all have a responsibility to manage the invasive weeds in their council area. This is an enormous task and one which is increasing annually. For example, the extent of the weed invasion along the Hawkesbury Road from Springwood through to the townships of Richmond and Windsor has greatly increased over the past decade, with large areas taken over by invasive species such as Balloon Vine[30] (*Cardiospermum grandiflorum* - a priority environmental weed in NSW), Lantana (*Lantana camara* - a weed of national significance) and Morning Glory (*Ipomoea purpurea*).

"No Space for Weeds" New South Wales Weeds Action Program Guidelines 2020-2025 (Department of Primary Industries)[31]

The NSW Biosecurity Strategy's vision is stated in the overview on page 5 of the document:

"government, industry and the people of NSW working together to protect the economy, environment and community from the negative impacts of animal and plant pests, diseases and weeds for the benefit of all people in NSW."

This is a fine vision and a worthy goal. It must be more broadly communicated and followed-up with actions that address the problem in a significant way. There is funding available through application to this program "No Space for Weeds".

The list of actions (page 5) includes worthy commitments and should assist in the management of weeds. However, it is crucial that the success of these strategies is rigorously evaluated and made public. It is also crucial that there is follow-up on any program in following years, to ensure that individual projects met their long-term aims and were in fact a good use of funding.

The DPI's "Biosecurity Information System – Weeds (BIS Weeds)" states that data submission is mandatory for local control authorities under the Act. This is a useful initiative but it is not clear how any checks are done to ensure that this data submission is completed.

[30] https://research.csiro.au/nswweeds/balloon-vine/

[31] https://www.nsw.gov.au/sites/default/files/2023-09/nsw-weeds-action-program-guidelines-2020-2025.pdf

South East Local Land Services (LLS) cites a program[32] to protect the natural values of GBMWHA following the 2019/2020 bushfires, with $1.8 million allocated as part of the Australian Government's Landcare Program. This project adopted a landscape approach to pest animal and weed management, with ongoing pest animal control programs, working with adjoining landholders. Programs such as this are promising, and we look forward to seeing the results and how this concept can be applied elsewhere in the GBMWHA.

Some things have not changed or have gotten worse since the introduction of the 2015 Act. The practice of introducing feral fish into NSW waters continues. In the Blue Mountains, Brown Trout were first used to "stock" Wentworth Falls Lake since the early 1980s in response to pressure from Acclimitisation Societies. This practice is widespread across NSW; Brown Trout was first released into NSW watercourses in 1864 as part of the Acclimitisation Society's movement. Wentworth Falls Lake is at the headwaters of Jamison Creek which flows directly into the GBMWHA. The Lake outlet is 3.7km from the BMNP (via run of the creek), so it is not far for the fish to move to the NP if they escape the Lake.

This introduced species has played havoc with Australian ecosystems, putting stress on frog populations by eating their tadpoles and depleting populations of native fish. The International Union for the Conservation of Nature ranks Brown and Rainbow Trout in the top 100 of the world's worst invasive alien species.[33]

Recommendation: that Department of Primary Industries cease stocking watercourses in the state with feral fish and stock only with fish that are native to that locality.

Public support for weed control has diminished due to the loss of the term "noxious".

Recommendation: that the classification of Noxious Weeds be reintroduced.

Question 5 What are the future risks posed by invasive species to the NSW environment, industries and communities?

If we fail now to effectively manage the impacts of invasive species and the arrival of new alien species, allow the invasive species already here to spread and expand across the state and beyond, into new areas, then they will continue to wreak havoc on our wild and natural areas and local communities.

Once opened, the Western Sydney International airport at Badgerys Creek, NSW is a potential source of novel invasive species that will enter the country at about 10 km from the lower Blue Mountains National Park. Increased global travel has been identified as one of the drivers of biosecurity risk. Numerous new, alien species have been recorded in past years near international airports, including Red Fire Ants, Yellow Crazy Ants, Zebra Chip Disease, Asian honeybees.[34] Plants diseases and invasive plant and animal species will not have far to move to potentially cause irreversible, detrimental impacts on the GBMWHA. It is imperative that biosecurity at the airport is of the highest order or we will not be able to prevent illegally imported or invasive hitchhiker plants and animals.

[32] https://www.lls.nsw.gov.au/regions/south-east/key-projects/the-greater-blue-mountains-world-heritage-area

[33] https://australianfoodtimeline.com.au/trout-introduced/

[34] https://bluemountains.org.au/documents/submissions/2015/BMCS_WSA_Draft_EIS_Submission.pdf

As a result of increased impact of invasive species, more species and vegetation communities endemic to NSW will come closer to extinction, requiring increasingly intensified and expensive efforts from Government and communities to try to rescue them, and many or most of these threatened and endangered species will become extinct. As our native pollinators, seed -dispersal agents, and other important parts of the ecosystems begin to vanish, these same ecosystems will collapse. This would be incredibly difficult to reverse and in fact it may be impossible to do so.

We would certainly leave an impoverished legacy for future generations and fail to meet our international commitments under the 2022 Kunming-Montreal Global Biodiversity Framework agreement.[35]

Recommendation: that greater resourcing be given to species and communities classed as "vulnerable" as these have better prospects of recovery, rather than waiting until they get to the "endangered" level.

Question 6 What opportunities do you see to improve the outcomes of invasive species management in the future?

CSIRO released a report in 2021 "Fighting plagues and predators" in which they plot a path towards a pest and weed-free future. [36] Australia has long-term programs underway to tackle the spread of high-impact weeds, plant diseases and other threats. Past, successful programs show that coordinated action is crucial if Australia is to strive towards removing invasive species as the number one threat to our unique biodiversity and maintaining our national reputation for safe and quality exports.

Development of new pest and weed solution, such as biocontrol agents, genetic and digital technology, including artificial intelligence. This could be a joint venture of bodies such as universities and CSIRO. At airports (in relation to the GBMWHA, Western Sydney Airport in particular) we need enhanced airport controls including foot baths for shoes, 3D x-rays for baggage to detect unwelcome "hitchhikers". We also need enhanced methods of ensuring invasive pests or diseases don't enter with food, imported flowers and other goods.

Development of SMART (Specific, Measurable, Achievable, Relevant, Time-bound) goals which are:

- based on scientific research,
- clearly expressed and communicated to all levels of the community,
- milestones developed and evaluated on an annual basis to determine progress
- make necessary changes if it is determined that the progress is insufficient.
- Goals and reporting need to include not only how many feral animals have been removed in the reporting period but how many remain. A similar strategy needs to apply to invasive plants.

There needs to be transparency, honesty and accuracy in reporting.

Reports need to be available to the public so they are aware of progress and so that they remain engaged with the strategy and committed to addressing the problem. The reports should also detail concurrent improvements in habitats or ecosystems as a result of the removal of the alien species concerned.

[35] https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222

[36] https://www.csiro.au/en/research/natural-environment/biodiversity/Fighting-plagues-and-predators

Education of all community members about this issue – why Australia's flora and fauna is unique and at high risk of adverse impacts from invasive species. This needs to include the more well-known risks from foxes and cats, but also be much broader to include the risk from new species that might come into the country.

This education needs to include recreational groups such as fishing groups and acclimatisation associations who are responsible for spreading alien fish species into rivers, creeks and dams where they weren't previously present.

The general community needs to become well-informed about the risks to native wildlife and habitats from releasing domestic animals or unwanted pets of all kinds, including pet fish. Often this is done through misplaced acts of kindness.

Organisations such as the RSPCA, and perhaps veterinarians, should be encouraged to assist here by taking unwanted animals of different species either for rehoming or humane disposal. Governments should provide financial support for this action. This is particularly important in the Blue Mountains area given the recent decision by the RSPCA to close its Blue Mountains Animal Shelter[37].

Schools and early childhood centres could take an important role in the education of young people about the uniqueness of Australia's biodiversity and the risks of alien and invasive species and the costs to the agricultural sector, tourism and Australia's economy. The school curriculum is "crowded", however, this topic would fit well into STEM (science, technology, engineering and mathematics) syllabi and also into the social sciences. Government bodies such as DPI, NPWS, Fisheries, the Invasive Species Council and not-for-profit conservation organisations could be supported to provided suitable educational material.

It is crucial that our population is better informed and educated and this should start with young people.

Increased co-ordination with other organisations, including universities, CSIRO, local conservation organisations, Land Care, Councils to name just a few. Part of this work can be directed at community members and provide quality data and information pitched at an appropriate level.

Resourcing Programs

All Invasive Species programs need guaranteed funding for well beyond 1 year - depending on the species, it could be 5 years or more.

Responsibilities of Government Departments

All government departments or state agencies that have ownership of any land should be required to actively undertake invasive species management and they should ensure the work is done. This checking could be done by the new Biosecurity Commissioner as part of the role.

Skilled Workers

For Weed management, more permanent full-time jobs are required to ensure people are attracted to and retained in the Bush Regeneration sector. It is not just funding that is an issue; after the fires of 2019-20, there was funding available for work which could not be done due to the lack of skilled personnel. Government agencies could provide employment for core teams with work supplemented by contractors, trained volunteers and volunteer organisations.

Regulations need to be reviewed, tightened and enforced. Currently, the rules relating to importing, keeping, releasing or moving invasive species are in general lax and poorly known across the community. They appear to be rarely enforced. There needs to be better monitoring of plants sold through garden centres and online, or invertebrate sales online and sales of vertebrates such as the Red-eared Slider Turtle, which has now also become an invasive species and a serious threat to the environment.

[37] https://www.bluemountainsgazette.com.au/story/8301439/give-us-back-our-animal-shelter-public-meeting-in-response-to-rspca-katoomba-closure/

Improved biosecurity measures.

The Government needs to implement better ways of preventing new species from entering the country and the state.

Recommendation: There needs to be an integrated strategy involving all states and the federal government. The onus of proof for what is allowed into the country and move between states should be reversed – the importer must provide scientific evidence that the species is not invasive, nor does it have the potential to become invasive in the next 50 years.

Thank you for providing us with the opportunity to comment on this important issue. If you have any questions you may contact me at president@bluemountains.com.au

Yours sincerely,

Mrs Annette Cam

President

Blue Mountains Conservation Society