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STANDING COMMITTEE ON ENVIRONMENT AND TRANSPORT AND CITY SERVICES
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Submission Cover Sheet

Nature in Our City

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NATIONAL PARKS ASSOCIATION OF THE ACT INC.

The Committee Secretary
Standing Committee on Environment and Transport and City Services
Legislative Assembly for the ACT
GPO Box 1020
CANBERRA ACT 2601

Submission: Nature in Our City

Thank you for the opportunity to make a submission on the Standing Committee's inquiry entitled "Nature in Our City". The National Parks Association of the ACT ("NPA ACT") is a community-based conservation organisation, which has worked for more than fifty-five years to protect our natural environment through an active outings and work party program, participation in Parkcare activities, an extensive publication program, public meetings and conferences, support to scientific research on some key environmental issues, and engagement with government policies and programs.

The NPA ACT recognises that the design of Canberra creates, what is probably, the largest urban interface with the natural environment of any city in Australia. The size of this interface and the interaction of Canberran residents with the natural environment places significant pressures on both on and off reserve native species and ecosystems. In particular, there is the potential for residents to "love to death Canberra's natural areas" through visitation in many forms and the impacts of domestic animals and bushfire management.

The NPA ACT welcomes new initiatives that will embrace blue-green infrastructure throughout Canberra but the ongoing problems of feral animal and weed management, recreational demands, bushfire management and domestic animal interference also need to be addressed through long term planning and sufficient ongoing base funding.

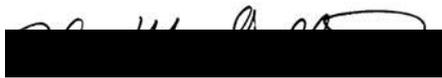
The ACT's love of its reserves is tempered by the degradation of many of them through weeds, pest animals and erosion. The many Parkcare groups provide enthusiastic support of the reserves but often their efforts are counteracted by the greater impact of the aforementioned threats. Naturally, there are exceptions to this, like Mulligans Flat, but the good work and lessons learnt there needs to spread across the conservation activities in all our reserves and natural areas.

A more detailed discussion of these and other points follows.

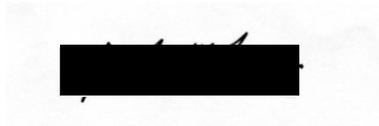
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Should you require any further information please do not hesitate to contact the NPA ACT office, attention of Mr Rod Griffiths, convener, NPA ACT Environment Sub-committee. Alternatively, Mr Griffiths can be contacted directly on [REDACTED]

Yours sincerely



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Detailed Comments

1. The level of public support for and satisfaction with amount and quality nature and natural environment areas in Canberra, particularly in urban areas.

The local population appears to embrace the idea of natural open spaces in Canberra. Many prominent community activities occur outdoors, within natural areas e.g. the Million Paws walk around Lake Burley Griffin. Open areas, many of which could be characterised as 'nature' adjoin almost every suburb and are heavily used for a wide variety of recreation activities, to the point that sections are "loved to death" by overuse by heavy impact activities e.g. mountain bike riding on Bruce Ridge.

NPA ACT is concerned with the amount of nature protected within Canberra. The best grassy woodlands surviving in south-eastern Australia are in the ACT. However, they are only partially protected in conservation reserves, and the majority are threatened by the effects of existing suburbs and the encroachment of new suburbs. Examples of this include the new suburbs bordering on the Molonglo river corridor, and the public concern which is regularly raised concerning the potential impacts of the new Ginninderry development on the open spaces of Ginninderra creek and its margins.

NPA ACT is also concerned at the quality of nature and natural environment areas in our city. Many reserves in Canberra Nature Park are in declining condition, with continued occurrence of weeds, rabbits and high number of kangaroos. There is a great need for weed control, but budgets for weed control have been reduced in the last two years. Rabbits continue to be common, despite some pest control works. Too many rabbits and kangaroos lead to excessive grazing of ground vegetation, not only grasses and forbs, but the regeneration of shrubs and trees.

There are about 25 ParkCare groups composed of volunteers who continue to look after their local patch of reserve adjacent to the suburbs. However, the interaction of excessive grazing by rabbits and kangaroos causes many weed and erosion problems. Volunteer efforts are often aimed at removing weeds, but this is continuing to be a 'band-aid' solution. It would be better if volunteer time was spent enhancing the natural areas in which they work.

The poor quality of the pasture layer in reserves often leads to grey kangaroos moving into the suburbs at night to find sufficient food. For example, kangaroos feeding on nature strips, gardens and ovals in Ainslie are a common sight. Some people on seeing these kangaroos may enjoy the feeling of 'nature in our city' but the truth is that the vegetation in the reserves is so degraded that kangaroos are forced out into the suburb to find enough food. Kangaroo control may be a contentious subject in Canberra, but the condition of the vegetation in the grassy woodlands

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adjoining the suburbs shows that the kangaroo population needs to be reduced to lower levels than currently exist.

2. The types of nature and natural environmental areas within Canberra e.g. urban open spaces or bushland reserves and the existing or potential benefits and challenges they bring to Canberra's:

- a. Social amenity;*
- b. Economic development;*
- c. Biodiversity; and/or*
- d. Climate resilience.*

The environment areas within the ACT can be described as follows:

Urban interface reserves – represented by the units of Canberra Nature Park, Jerrabomberra Wetlands and Molonglo River Reserve. All are legislatively defined as Nature Reserves which have a primary management objective of environmental conservation. The Molonglo River Reserve also contains some Special Purpose Reserve areas which have a greater emphasis on recreational activities.

Other conservation reserves – represented by those reserves that tend not to abut urban developments such as Namadgi National Park, Tidbinbilla Nature Reserve and the Molonglo River Corridor.

Pine Forests – A number of pine forests are in close proximity to urban developments and areas like Majura, Isaac Ridge and Tuggeranong Pines all have dedicated mountain bike trails.

Urban parklands – Other natural or semi-natural reserves close to urban developments such as the Fisher Parkland. These often provide key points of connectivity for the movement of native species.

Other urban open space – Highly modified reserves such as playgrounds, ovals and mown open areas, including golf courses.

Urban ponds and wetlands – Man-made ponds or wetlands within the urban environment with a key water quality function.

Mt Stromlo/Sparrow Hill – Two areas that provide dedicated mountain bike facilities.

Many of the above have key recreational routes such as the Centenary Trail and the Bicentennial National Trail passing through them.

An analysis of the above areas against the listed criteria is at Appendix A

3. Opportunities for Blue (water) and or Green (natural) Infrastructure in Canberra including;

- a. Functional requirements of proposed infrastructure;*
- b. Cost and Maintenance considerations;*
- c. Amenity benefits; and*
- d. Conservation and biodiversity benefits.*

There are many opportunities for blue and green infrastructure in Canberra. However, it is essential that blue and green infrastructure is not discussed in isolation. Green and blue infrastructure are two sides of the same coin, and discussions should be about green-blue infrastructure.

The Victorian Government has detailed guidelines on blue-green infrastructure. These guidelines include the following definition: a “green-blue city is an urban area that is designed to successfully incorporate natural systems that provide the ecological and amenity value associated with urban greening, and also provide stormwater management. Often “green” assets (trees, parks, gardens) and “blue” assets (Water Sensitive Urban Design (WSUD), drainage areas and flood storage) are planned separately. However, often the same asset can provide multiple services that benefit both “green” and “blue” objectives. By purposely planning for green-blue infrastructure that achieves multiple objectives, cities and towns can benefit from efficient infrastructure, greater collaboration and heightened benefits.” Page 5, PLANNING A GREEN-BLUE CITY. A how-to guide for planning urban greening and enhanced stormwater management in Victoria.

https://www.water.vic.gov.au/_data/assets/pdf_file/0029/89606/Green-blue-Infrastructure-Guidelines-Feb17.pdf accessed 1/6/2018

Functional requirements of proposed infrastructure

It is essential that individual items of infrastructure are not proposed in isolation. Ideally, green-blue infrastructure arises from a planning philosophy that is continuous across all scales, from an individual household to the whole city. The functional requirement is the integration, rather than the separation, of hydrologic and landscape functions. For example, there needs to be an increase in surfaces that absorb rainfall, rather than shedding it, and for every area of hard surface that sheds water after rainfall, there needs to be areas of vegetation that absorb and use that water. From small scale to large scale these items can include green roofs, domestic gardens, raingardens, swales, playing fields, green corridors, ponds, wetlands and forests.

In many suburbs of Canberra, stormwater drainage is by concrete-lined drains, (grey infrastructure) which is a conveyance system. These drains collect water and convey it, along with the pollutants and litter that it carries, rapidly to somewhere else, where it may cause a problem. The high rainfall event of 25 February, 2018 showed the disadvantage of this principle, when water collected over the inner north area of the city was concentrated by the stormwater system and caused flash flooding in O'Connor.

There are some items of blue-green infrastructure associated with stormwater drains in the inner north, such as the Dickson, Lyneham and O'Connor wetlands. These items alone are unable to manage stormwater flows, having been designed for water

harvesting and re-use on playing fields. However, they display many of the benefits of blue-green infrastructure.

These wetlands are only a minor part of what is possible with blue-green infrastructure, but retro-fitting additional sites in established suburbs will be more difficult than ensuring that all new suburbs have a wide range of blue-green infrastructure. For example, every house should have a rainwater tank for garden use, every carpark should be associated with shady plantings that are watered by the runoff from that carpark, every road should drain into a well planted urban corridor, any stormwater drain should fill detention basins first, rather than shunting water into major creeks.

Cost and Maintenance considerations

It is beyond the scope of NPA ACT to advise on the costs of construction and maintenance of blue-green infrastructure. However, it is likely that costs are balanced by many benefits, many of which are not financial. Benefits of blue-green infrastructure to open space parks can include enhancement of recreation value, creation of attractive park features, enhancement of public wellbeing, reduction of maintenance, provision of economic benefits, improvement in water quality, improvements in drainage, public education, and overall benefits to the environment. There are many studies available from Australia, North America and the UK that demonstrate the non-\$ benefits of blue-green infrastructure.

Maintenance requirements can be reduced if members of the public are educated about the benefits of blue-green infrastructure and are encouraged to form groups that care for a local patch of plantings. If areas are planted to grasses, they can easily be invaded by weeds, and there will always be pressure from some members of the public that all grass areas are regularly mown, greatly increasing the maintenance costs.

Amenity benefits

Blue-green infrastructure has great amenity benefits. The existing urban wetlands have provided habitat for a whole range of native species that would not occur in that locality without the wetland. However, the wetlands are more likely to be known by locals as a great place to walk or sit and observe the wetland and an even greater range of species can be introduced to these habitats.

The amenity benefits can include the benefit people get from regular exercise in walking, running, or riding in open spaces that can be provided by blue-green infrastructure. The benefits to health would provide a long-term reduction in health care costs in the city.

The greatest advantage of blue-green infrastructure is that local runoff can be used to grow trees and shrubs despite the climate of Canberra drying with climate change.

Recent climate change studies have shown that Gungahlin suburbs, with large numbers of buildings, are predicted to have a high frequency of high summer temperatures, which are a risk to the elderly. The use of blue-green infrastructure could ameliorate those climate impacts, with hard surfaces harvesting water to be used for tree planting to increase the amount of shade throughout the suburbs. This shade would reduce the demand for electricity to drive air conditioning.

Conservation and biodiversity benefits

NPA ACT recognises that the greatest conservation benefits of blue-green infrastructure would come from undisturbed forests, woodlands, grasslands and wetlands, as these would have the greatest capacity to absorb rainfall while at the same time providing the greatest diversity of species to be conserved. This diversity also provides resilience in the system, diversity in landscape character, and educational opportunities.

However, many other elements can also provide conservation and biodiversity benefits. Planted forests, or woodland patches in the suburbs can have important biodiversity benefits if they are primarily local native trees and are integrated with native shrubs and grasses which are not mown. Non-native deciduous trees are unsuitable for such plantings because they do not provide good habitat for wildlife, and they create large loads of fallen leaves that can be a nuisance to residents and cause excess nutrients in waterways.

Unfortunately, many urban open spaces in Canberra are urban parks with scattered trees and mown grass which have low biodiversity benefits, and higher maintenance costs. These open areas with large trees are likely to be habitat for noisy miners, a native honeyeater, but an aggressive bird that can drive away small birds. Street trees in the newer suburbs appear to be limited to small, introduced species planted at widely spaced distances, whereas native trees in groups have a much greater aesthetic appeal and a much greater biodiversity benefit, particularly if there is an associated understory of native vegetation.

Roadside planting along major routes can have similar benefits, and in addition, provide corridors for movement of fauna, so long as they link to other areas of vegetation. Again, biodiversity benefits are maximised by a diversity of local native species. The potential environmental benefits of road verges are often overlooked but they can be key ingredients in blue-green infrastructure.

The constructed wetlands that have been created in the last ten years have already been shown to have biodiversity benefits but are unlikely to have significant conservation benefits. Conservation values may be increased if wetlands were connected together in a chain of ponds, rather than being isolated spots in the city. In addition, further work can be done on expanding the range of native species planted in these wetlands.

The wetlands are generally managed with water levels that are stable, or only have minor variation. Wetland would be of most value if they were almost dried for about 2 months once every few years. This may reduce their water harvesting potential, and public education is required so that people understand that a wetland that dries occasionally is a better wetland for biodiversity.

4. Managing the interface between the natural environment and urban areas particularly in regards to conserved environmental areas.

The “bush capital” lives up to its name by the interweaving of suburbs and nature reserves across its length and breadth. Many of Canberra’s suburbs abut units of Canberra Nature Reserve, including those that contain threatened native grasslands or equally threatened grassy woodland ecosystems. The new suburbs of the Molonglo similarly abut the Molonglo River Reserve, which protects a number of threatened species. And the future East Jerrabomberra development will lie next to the Jerrabomberra Wetlands.

This close proximity creates specific pressures on the conservation viability of these reserves. These pressures include:

Domestic animals – in particular cats and dogs. Unrestricted outside access for cats has the potential for significant impact on small animals and invertebrates. The NPA ACT strongly supports the introduction of cat containment throughout the ACT’s suburbs. Cat containment has been shown to have a benefit for the natural environment and for the cats themselves, with contained cats tending to live longer and healthier lives

On-lead walking of domestic dogs is allowable in some the ACT’s conservation reserves. The NPA ACT would support measures to encourage positive reinforcement of this requirement as unrestricted access of dogs in reserves has the potential to discourage native animals from frequenting such areas. Studies have shown that peer/community expectations can have a significant impact on the dog ownership behaviour and support through education on the effects of both cats and dogs on native areas is important step in encouraging these expectations.

Fire management – Most of the conservation reserves near suburbs are relatively small and therefore can be heavily impacted should fire protection zones are incorporated into their boundaries. The NPA ACT supports the inclusion of fire protection zones within developments and the incorporation of fire sensitive landscaping and dwelling design in suburbs next to conservation reserves.

Recreational pressure – The ACT’s reserves provide significant health benefits to the Canberra community. Visitation to natural areas have been shown in European studies to have better health outcomes than visitations to non-natural settings. Canberrans are relatively active in their interactions with the ACT’s conservation reserves and the community benefits as a whole from improved mental and physical wellness outcomes for the participants.

However, overuse of the ACT’s conservation reserves will compromise the conservation objectives of these reserves. It is important that a comprehensive recreation strategy be designed for the ACT to ensure recreation opportunities exist

across all land tenures of the ACT and that recreational pressures do not undermine the very reason for the existence of conservation reserves.

Weeds and Feral Animals – Both these threats require long term management and both have suffered from budget uncertainty and variations. The NPA ACT strongly urges all political parties to support the adoption of budget baselines for the control of weeds and feral animals. These baselines should be of a quantum that allows for long term sustained management of these threats. This will provide certainty to land managers and facilitate the implementation of the relevant action plans. Contingency funds should be on hand to rapidly meet the emergence of any new weed or feral animal threats.

5. Current policy or regulatory settings that impede the integration of the natural environment within optimal urban development and design.

As previously stated the use of blue-green infrastructure should be integrated throughout the planning, development and maintenance stages of the ACT's urban developments, at the individual household level right up to large scale development. Such integration should be supported by appropriate improvements to the ACT's planning regulatory framework and through the use of education programs to engage the ACT community in the adoption of blue-green infrastructure.

The NPA ACT would contend that such changes should have a focus on the use of local species in infrastructure.

There is the potential for the Conservator have increased powers in her/his role in the planning process in the ACT which in turn should mean better outcomes for the natural environment.

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Appendix A - Commentary on the types of nature and nat

| | Urban interface reserves |
|-----------------------------|--|
| Social amenity | Provide relatively easy access for a wide range of activities. |
| Economic development | Usually limited as economic development would be contrary to the primary management objective of these reserves. Proposed visitors centre at Mulligan's Flat provides slightly greater economic opportunities. |
| Biodiversity | Classified as nature reserves and therefore should be managed for conservation as their primary activity. Contain significant ACT threatened species and ecosystems. |
| Climate resilience | Important reserves for the protection of local species from climate change. |

ural environmental areas within Canberra

| Other conservation reserves | Pine Forests | Urban parklands |
|--|--|--|
| Further away from urban development, access usually requires some form of transport. | A number of the urban fringe pine forests provide dedicated mountain bike tracks. All cater for a range of outdoor activities. | Tend to cater for a range of outdoor activities. |
| Usually limited as economic development would be contrary to the primary management objective of these reserves. Namadgi visitors centre provides slightly greater economic opportunities. | Some commercial activities such as paintballing are present. Potential for further similar low key development. | The nature of low key activities in these areas probably do not lend themselves to significant economic development opportunities. |
| Capture a wide range of ecosystems across a large area of the ACT. | Introduced monoculture although with some patches of native species. | Can contain some good examples of native species but areas tend to be highly modified and require rehabilitation. |
| Significant refugia from climate change for highland species and ecosystems. | Carbon sinks until harvested. | Can be key conduits of native connectivity. |

| Other urban open space | Urban ponds and wetlands |
|--|---|
| Provides green space in an urban context. Facilitates a wide range of passive and active activities. | Significant aesthetic amenity provided with opportunities for low key activities. |
| Potential for low key developments. | Urban ponds and wetlands tend to have a positive impact on adjacent housing prices. |
| Highly modified. Native species limited usually to a small number of native trees. Typically these areas have little or no native understory plants. | Attractive to mobile native species. Otherwise flora and less mobile species will rely on active reintroduction. |
| Very limited. | Additional wetlands for native aquatic bird species. Potential for blue infrastructure projects to seek to expand the species represented in these areas and therefore increase the amount of climate change refugia for these species. |

Mt Stromlo/Sparrow Hill

Key centres for mountain biking. Mt Stromlo also provides onroad cycling facilities and opportunities for walking, running, horse riding. Both the Centenary Trail and the Bicentennial National Trail go through Mt Stromlo.

Potential for economic opportunities at both sites.

Mt Stromlo has significant native regrowth on its western side and provides a key conduit for native connectivity.

Continued rehabilitation of Mt Stromlo would provide enhanced refugia for native species in respect to climate change.