

Submission
No 271

**INQUIRY INTO PROPOSAL TO RAISE THE
WARRAGAMBA DAM WALL**

Name: Name suppressed

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Chair
Select Committee on the Proposal to Raise the Warragamba Dam Wall
Legislative Council
NSW Parliament House
Macquarie St
SYDNEY NSW 2000

Warragamba Catchment Area and the Blue Mountains World Heritage National Parks – impact of raising the dam wall on biodiversity and other features of high conservation significance.

Background and Experience

I am a zoologist with over 30 years of field experience working with the NSW National Parks and Wildlife Service and Office of Environment and Heritage. My role was largely to undertake fauna surveys to assess the conservation value of lands that could be added to the national parks estate or protected through other land management instruments, or assess the fauna values of national parks and other reserves.

I have been visiting the Warragamba Catchment Area to undertake fauna surveys as a professional officer . I am deeply concerned about the proposal to raise the dam wall and flood a significant area of the catchment which supports biodiversity values of national conservation significance. In fauna surveys I undertook for NPWS in the catchment we discovered large numbers of the Critically Endangered Regent Honeyeater. Fifty-seven individuals were observed on the Sheepwalk Drive in the Burragorang region of the Yerranderie State Conservation Area on the Wollondilly River. Subsequent bi-annual surveys for the Birdlife Australia National Regent Honeyeater and Swift Parrot Surveys have located the Regent Honeyeater and also the Endangered Swift Parrot in the immediate vicinity of the historic “Joorilands” property on the Wollondilly River as well as a number of other threatened woodland birds which include the Hooded Robin, Brown Treecreeper, Dusky Woodswallow, Speckled Warbler, Diamond Firetail and Turquoise Parrot. Other threatened woodland species which will be threatened through inundation of this woodland habitat include the Black-chinned Honeyeater, Painted Honeyeater, Barking Owl, Masked Owl, Eastern Free-tail Bat and Squirrel Glider.

The Warragamba Catchment Area includes parts of the Wollondilly, Nattai, Little, Tonalli, Cox’s and Kowmung River systems. The Warragamba Catchment includes parts of the Blue Mountains, Kanangra-Boyd and Nattai National Parks and Yerranderie and Burragorang State Conservation Areas reserved under the NSW National Parks and Wildlife Act (NPW Act). The National Parks are collectively referred to as the Greater Blue Mountains National Parks. The majority of the land contained in these reserves and the Warragamba Catchment Area (70%) are included in the Blue Mountains World Heritage Area. A large portion of these lands are also Declared Wilderness Areas

under the NPW Act. The Burratorang area within the Warragamba Catchment Area is an Aboriginal name for parts of the Wollondilly, Tonalli, Nattai and Cox's River valleys and the name that has been given to the impoundment of Warragamba Dam, Lake Burratorang. The Burratorang area includes most of the Temperate Grassy Box Woodland ecosystems contained in the Warragamba Catchment Area.

My submission here predominantly addresses term of reference 1d (iii), highlighting concerns over the ecological impacts this project will have on the Greater Blue Mountains National Parks and other Reserves under the NPW Act and how it has been assessed to date.

Features of High Conservation Significance in the Burratorang area within the Warragamba Catchment Area.

1. The Warragamba Catchment Area contains a diversity of ecosystems reflecting the diversity of geology and climatic conditions. Seventy –seven different vegetation communities have been described for the area of which seven are considered Endangered Ecological Communities (EEC's) under the Biodiversity Conservation Act (2016) (NPWS 2003).
2. The vegetation communities referred to collectively as the Grassy Box Woodlands on the middle and upper Wollondilly River valley, also known as the Burratorang area, may be some of the most intact examples of Temperate Grassy Box Woodland ecosystems surviving in all of south-eastern Australia. They are considered part of the Endangered Ecological Community White Box-Yellow Box- Blakely's Red Gum EEC which is listed under both State and Federal threatened species Acts. Grassy Box Woodland habitat will be lost to flooding should the dam wall be raised.
3. Grassy Box Woodlands in the "Joorilands" area on the Wollondilly River in Yerranderie SCA are some of the best examples of 'old growth' Grassy Box Woodland surviving in the Warragamba Catchment Area and potentially throughout the Greater Sydney Region.
4. Open areas between woodland patches have been mapped by NPWS (2003) as cleared. Open areas need to be re-assessed as much of these areas are predominantly native grasses and forbs and therefore qualify as a Derived Native Grassland under State and Federal Threatened Species Acts and are therefore considered to form part of the EEC. These native grasslands provide important habitat for many woodland species and significant areas of native grasslands will be flooded should the dam wall be raised. Within the Warragamba Special Area 22,000 ha have been identified as cleared of which a large proportion will be native grassland and should be mapped as such.
5. Temperate Grassy Box Woodlands have been highly cleared for agriculture and are some of the most threatened ecosystems in NSW. The majority of Grassy Box Woodlands occur on the western slopes of the Great Dividing Range where they have been used for grazing and cropping since European settlement and are known as the Wheat-Sheep Belt. In many of these areas as little as 5% of the original tree cover remains.
6. The Grassy Box Woodlands of the Burratorang are some of the most intact examples of these ecosystems remaining in all of south-eastern Australia. Domestic stock were removed in the late 1950's due to the dam construction and introduced pastures were not widely used leaving largely intact native grasslands. Much of the original native fauna survives including the Dingo which has been exterminated from most of NSW. The

Dingo co-exists with other native predators the Wedge-tail Eagle, Spotted-tailed Quoll and Lace Monitor which exist in a natural equilibrium with their native prey species, the Eastern Grey Kangaroo, Eastern Wallaroo, Swamp Wallaby, Red-necked Wallaby, threatened Brush-tailed Rock Wallaby, Wombat and Emu. This may be one of the only locations in Australia where the natural equilibrium between native predators and native prey can still be found in a Temperate Grassy Woodland ecosystem. The Dingoes of Burratorang should be considered for listing as an endangered population under the Biodiversity Conservation Act (2016).

7. The Grassy Box Woodlands of the Burratorang also support a wide diversity of woodland birds including 25 threatened species. It includes one of the most threatened species in Australia, the Regent Honeyeater, which is listed as Critically Endangered under State and Federal threatened species Acts, and has been recorded breeding in the Burratorang area recently. Other threatened woodland birds include the Swift Parrot, Turquoise Parrot, Little Lorikeet, Diamond Firetail, Hooded Robin, Brown Treecreeper, Varied Sittella, Painted Honeyeater, Black-chinned Honeyeater, Dusky Woodswallow, Barking Owl and Masked Owl. Woodland birds have declined dramatically throughout much of their range across the Western Slopes of NSW and include some of the most threatened species in NSW (DECC 2007, OEH 2019).
8. Other threatened woodland fauna include the Squirrel Glider, Koala, Brush-tailed Rock Wallaby and Eastern Free-tailed Bat (DECC 2007). The colony of Brush-tailed Rock Wallaby on the Wollondilly River is one of the few remaining in a Grassy Woodland Ecosystem in the entire Sydney Basin. The presence of the Dingo may benefit the Brush-tailed Rock Wallaby by suppression of the introduced Fox. Surveys for the Koala have not been extensive or comprehensive and this species may be more abundant and widely distributed than currently known, especially in woodland habitats. Restricted access into the catchment has limited the number of fauna surveys and other rare and threatened species may yet be found. One species, the threatened Brush-tailed Phascogale, a small tree-dwelling carnivorous marsupial, could be present. It may yet be detected by modern camera survey techniques.
9. The uniqueness of the Grassy Box Woodlands and other Dry Open Forests of the Burratorang area should be recognised as a scientific reference area for the management of such ecosystems throughout south-eastern Australia and nominated as an Area of Outstanding Biodiversity under the Biodiversity Conservation Act (2016).
10. Moist forest types along the Nattai, Little and Kowmung Rivers support threatened species such as the Yellow-bellied Glider, Spotted-tailed Quoll, Glossy Black-cockatoo, Gang Gang Cockatoo, Powerful Owl, Sooty Owl, Greater Broad-nosed Bat, Eastern Bent-wing Bat and Large-eared Pied Bat. Extensive areas of habitat of these species will be lost to flooding along the rich riverine flats where biodiversity is concentrated, should the dam wall be raised (DECC 2007).
11. Moist forest types on the Kedumba, Nattai and Little Rivers support Burratorang River Flat Forest which in places supports the threatened Camden White Gum *Eucalyptus benthamii* (NPWS 2003). Some of the last stands of this Nationally Threatened species will be lost to flooding should the dam wall be raised.
12. The river systems support populations of Platypus, Water-rat and threatened microbat the Large-footed Myotis (DECC 2007). These species forage largely in and above shallow

and protected waters of rivers and creeks and are not likely to use the deep waters of the dam impoundment. Sixty-five kilometres of wilderness river and creek habitats will be lost should the dam wall be raised.

13. The Kowmung River is one of the most pristine rivers surviving in NSW as its catchment is largely contained within National Park. A further five kilometres of this pristine river will be lost should the dam wall be raised.
14. The valley areas of the rivers of the catchment contain potentially thousands of important Aboriginal sites, many of which would not be documented, and the landscape as a whole is of great significance to Aboriginal people. Raising the dam wall will flood thousands of hectares of lands of great cultural significance to Aboriginal people.
15. Sites of European Historic Heritage, such as the pastoral property of "Joorilands", will be impacted by rising dam waters should the dam wall be raised.
16. Thousands of hectares of National Parks and Reserves, World Heritage Areas and Declared Wilderness Areas will be lost to flooding should the dam wall be raised.
17. The iconic multi-day Katoomba to Mittagong bushwalk will be severed and camp sites flooded by rising dam waters should the dam wall be raised. This would potentially prevent further development of this iconic walk to a level such as that of the "Overland Track", which draws thousands of visitors per year to Tasmania.

Impact of Raising the Dam Wall by 14 to 17 m.

1. Raising the dam wall by at least 14 m or more will flood thousands of hectares of threatened and endangered ecosystems and their threatened flora and fauna, in particular a very significant area of Grassy Box Woodland.
2. Flooding will destroy thousands of significant Aboriginal sites and destroy landscapes of great cultural significance.
3. Flooding will destroy 65 kilometres of Wilderness Rivers.
4. Flooding will destroy thousands of hectares of habitat contained in the World Heritage listed Blue Mountains National Parks.
5. Flooding will destroy thousands of hectares of Declared Wilderness.
6. Flooding will impact on iconic bushwalks such as the Katoomba to Mittagong walk.
7. Flooding will impact on historic pastoral properties.

What Raising the Dam Wall won't do.

1. Professor Jamie Pittock (ANU) said raising the Warragamba Dam wall won't prevent large flood events from affecting the communities of the Hawkesbury-Nepean floodplains. Flood waters can also originate from the Nepean and Grose Rivers and other catchments.

Alternatives to Raising the Dam Wall.

1. Use funds to expand or duplicate the desalination plant to provide guaranteed water supply and keep water storage levels in the current dam below maximum.
2. Use funds to build high level evacuation roads so existing residents on the floodplain can evacuate from flood waters.
3. Do not further develop flood prone lands for housing, especially anything below the 1:500 flood levels.

Benefits of an Alternative Strategy.

1. This alternative strategy will save threatened ecosystems and species in the World Heritage listed National Parks and Declared Wilderness Areas, and other NPWS Reserves, especially Grassy Box Woodlands and Burragorang River Flat Forest.
2. Will not further impact on sites and landscapes that are of very great cultural significance to Aboriginal people.
3. Will not further impact on pristine and Wilderness Rivers and their flora and fauna.
4. Will not impact on iconic bushwalking routes and camp sites.
5. Will not further impact on sites of early European pastoral heritage.
6. Will guarantee that government funds spent on expanding or doubling the desalination plant will better secure drinking water supply. Increasing the height of the dam wall will not guarantee water supply if rainfall declines in the catchment.
7. Will insure that current residents on the Hawkesbury-Nepean floodplain can safely evacuate floodwaters.

Conclusion.

The uniqueness and condition of the woodland ecosystems of the Warragamba Catchment Area warrant them being given special status as a Scientific Reference Area which and should be protected by their inclusion as an Area of Outstanding Biodiversity Value under the Biodiversity Conservation Act 2016.

The suite of ecosystems that are contained within the Warragamba Catchment Area and the Blue Mountains World Heritage National Parks and other NPWS reserves rival the biodiversity of Kakadu or the Kimberly regions of northern Australia. The protection of these ecosystems in their entirety is crucial to maintaining the biological integrity of the Blue Mountains World Heritage National Parks and their World Heritage status.

Restricted access into the catchment for the public and limited fauna surveys by staff and scientists mean that the value of the catchment lands to flora and fauna is yet to be fully discovered or appreciated.

I ask that the government halt this proposal to raise the dam wall and destroy World Heritage Areas, ecosystems of national conservation significance and landscapes of great cultural significance to Aboriginal people and seek other avenues to achieve flood protection for existing residents downstream and means of securing future water supplies.

Yours sincerely,

References

DECC (2007) *Terrestrial Vertebrate Fauna of the Southern Sydney Region. Volume 1, 2 and 3.* A joint project between the Sydney Catchment Authority and Department of Environment and Climate Change (NSW) (DECC) under the Special Areas Strategic Plan of Management (SASPoM) by the Information and Assessment Section, Metropolitan Branch, Climate Change and Environment Protection Branch, DECC, Hurstville.

NPWS (2003) *The Native Vegetation of the Warragamba Special Area. Part A and Part B.*

Unpublished report commissioned by the Special Areas Plan of Management (SASPoM) and produced by the Conservation Assessment and Data Unit, Central Conservation Programs and Planning Division, Department of Environment and Conservation (DEC), Hurstville.

OEH (2019) Atlas of NSW Wildlife. Database of Fauna and Flora records. NSW Office of Environment and Heritage, Hurstville.



Figure 1: Eastern Grey Kangaroo in Grassy Box Woodland, Burraborang, Nattai National Park. Bonum Pic in the background.



Figure 2: Old Growth Grey Gum *Eucalyptus moluccana* in Grassy Box Woodland at Joorilands, Wollondilly River, Yerranderie State Conservation Area.



Figure 3: Regent Honeyeater, Critically Endangered, Grassy Box Woodland, Burragorang, Yerranderie State Conservation Area.



Figure 4: Dingo, Grassy Box Woodland, Joorilands, Yerranderie State Conservation Area.



Figure 5: Joorilands shearing shed, historic pastoral property, Yerranderie State Conservation Area.



Figure 6: Possible Aboriginal scar tree. Old Growth Grassy Box Woodland, Joorilands, Yerranderie State Conservation Area.