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Nature Conservation Saves for Tomorrow

Date: 31st January 2024

To: WSI flight path team
via email eis.submissions@infrastructure.gov.au

Subject: **Submission on the draft Environmental Impact Statement for Western Sydney International (Nancy-Bird Walton) Airport Airspace and Flight Design**

The Blue Mountains Conservation Society (the Society) is a community-based volunteer organisation with over 850 members. Our mission is to help protect, conserve and advocate for the natural environment of the Greater Blue Mountains. In fulfilling its mission, the Society advocates for the protection of the Greater Blue Mountains World Heritage Area. Many of our members have expertise in ecology and land management and several of them have contributed to this submission.

The Society has serious concerns about the flight paths arriving into and departing from Western Sydney International airport (WSI) and the highly detrimental impact these flights will have on the Blue Mountains natural areas including the biodiversity and the Outstanding Universal Values of the Greater Blue Mountains Area (GBMA).

We acknowledge the unsuitability of these proposed flight paths on the villages and residents of the Blue Mountains, the resulting stress and loss of their amenity and way of life. However, our submission will focus on the impacts on conservation, biodiversity in natural areas and the integrity of the GBMA, which the draft Environmental Impact Statement (EIS) for WSI has failed to adequately address.

Without appropriate consideration of these issues, WSI will have an adverse impact on the biodiversity of the UNESCO-listed Greater Blue Mountains Area.

We have detailed our objections to and recommendations for the draft EIS in the following pages.

Thank you for the opportunity to comment on this important matter.

Yours sincerely,

[redacted]

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Contents

1. Introduction

The Greater Blue Mountains Area was inscribed as World Heritage in 2000, in recognition of the biodiversity of eucalypt species and evolutionary systems present in its ecosystems. This World Heritage status, however, also recognises its broader Outstanding Universal Value (OUV), which include pristine wilderness (in line with the legal definition of wilderness in the *Wilderness Act 1987 (NSW)* (Wilderness Act) rare and endemic taxa, geology and geomorphology. The EIS must, therefore, adequately account for impacts on the broader biodiversity and OUV and not simply focus on those threatened species and communities listed under the *Environmental Protection and Biodiversity Conservation Act 1999*[1] (EPBC Act).

The UNESCO World Heritage Committee states: "World Heritage properties are of international importance and should always be considered as sensitive and valued"[2] and that their protection is "a collective responsibility shared by governments, private sector and the wider community".

In 1999, the International Union for the Conservation of Nature (IUCN) deferred the World Heritage Nomination of the Greater Blue Mountains due to its concerns that the establishment of an airport at Badgerys Creek might compromise the integrity of the area. Potential impacts included those from aircraft noise, visual impact and air pollution. The Australian Government has explicitly given assurances that an airport at Badgerys Creek would not adversely affect any of the ecological or biological processes in the relevant ecosystems or the aesthetic values of the GBMA. The GBMA was subsequently inscribed on the UNESCO World Heritage List in 2000.[3]

In 2023, the World Heritage Committee adopted the following decision:

"The World Heritage Committee:

> *Requests furthermore the State Party to fully assess the potential impacts of the Western Sydney International (Nancy-Bird Walton) Airport on the OUV of the property, in line with the Guidance and Toolkit for Impact Assessments in a World Heritage Context;"* [4]

Unsuitable flight paths over the Greater Blue Mountains World Heritage Area proposed.
The flight paths proposed in this EIS include frequent, low flights over many parts of the GBMA and nearby public lands. The proposed flights will cause a highly detrimental impact to the OUV of the World Heritage Area and cause significant risk to the biodiversity, experience of wilderness, heritage values and landscape and visual amenity.

It is therefore crucial that proposed flightpaths of aircraft departing from and arriving into WSI are minimised so as NOT to fly over at a height lower than 31,000 ft in line with international standards for flights over wilderness areas.[5]

[1] Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) available online: https://www.legislation.gov.au/C2004A00485/2021-03-28/text
[2] Assessing Impacts On World Heritage As Part Of A Wider Environmental And Social Impact Assessment, page 25. Available online: https://whc.unesco.org/en/guidance-toolkit-impact-assessments
[3] Blue Mountains City Council, January 2024 "Submission on the Western Sydney International (Nancy-Bird Walton) Airport – Airspace and Flight Path Design – Draft Environmental Impact Statement
[4] UNESCO World Heritage Convention, Greater Blue Mountains Area, Australia. Available online:https://whc.unesco.org/en/decisions/8278
[5] Dr AR Green, Director, ARGSAB Pacific Pty. Ltd (2024) Western Sydney Airport EIS Submission, page 25.

2. Summary of concerns

The 2023 Draft WSI EIS is inadequate in assessing and mitigating the potential negative impacts on the Greater Blue Mountains Area as well as other areas protected under the NSW National Parks and Wildlife Heritage Estate.

The EIS' objectives and guiding principles in design of flight paths for WSI considers safety, and "to the extent practical, noise mitigation and environmental impacts". (Technical paper 1: Aircraft noise, Key messages page xiii). Furthermore, under 1.5 of this same paper,
"Condition 16 of the Airport Plan includes requirements...that:
(5) The airspace and flight path design must take account of the following principles, in addition to the principles in section 2.2.5 of the Airport Plan:

> *(d) airspace and flight path design must minimize to the extent practicable the impact of Aircraft Overflight Noise on the following:*
>
> > *(i) residential areas;*
> > *(ii) Sensitive Receptors;*
> > *(iii) the Greater Blue Mountains World Heritage Area – particularly areas of scenic or tourism value; and*
> > *(iv) Wilderness areas."*

There is no guiding principle in the EIS relating to protecting the important values of the surrounding environment, including the GBMA, which extend beyond consideration of the impacts of noise to include biodiversity and visual amenity. This is inexplicable in the current context, especially given the Australian Government's recent adoption of the Kunming-Montreal Global Biodiversity Framework (GBF) in 2022, and their ongoing commitment to protecting the Outstanding Universal Value of the GBMA under the UNESCO World Heritage Agreement.

The EIS fails on all accounts. The risk of wildlife strike, particularly strike involving the Grey-headed Flying-fox is very high, yet the surveys and data collected are inadequate, and there are no mitigation or management measures detailed. The noise levels presented are based on flawed assumptions of ambient noise in the GBMA and in wilderness areas, which do not include any real measurements taken. The potential environmental impacts, including on biodiversity, are considered in a cursory way with little data to inform them, and then are dismissed as "negligible" in an attempt to justify the proposed flight paths. The high impact on visual amenity in the GBMA is acknowledged as significant, and then dismissed as being unimportant.

In the Blue Mountains Conservation Society's response to this EIS, we have focused on the issues that lie within our area of concern and addressed each of these areas in detail in the following pages.

Here we give a precis of our main concerns. At the end of our paper, we include our recommendations.

Greater Blue Mountains World Heritage Property and wilderness
Negative impacts of flight paths on levels of noise, visual amenity, landscape, and Outstanding Universal Value and integrity of the GBMA.

- The World Heritage Committee inscribed the Greater Blue Mountains Area as a world heritage site in 2000. In so doing the Australian Government confirmed an ongoing commitment to fulfilling their obligation to protect the Greater Blue Mountains Area World Heritage Property.
- Negative visual and noise impacts of aircraft on the OUV of the GBMA and Wilderness are considered in the EIS as high and yet have been dismissed as negligible. This underestimates the

value to visitors and community of the experience provided by wild expanses of GBMA. It degrades the values of declared Wilderness.
- Negative impact on biodiversity of GBMA remains unassessed and has been dismissed because no clearing of vegetation will occur in respect of flight paths.

Additional public lands considered for addition to the GBMA

- Benson and Smith (2015)[6] state that to better protect the GBMA from "increasing threatening processes...long-term conservation effectiveness will be improved with targeted boundary changes." The EIS also lists these areas being considered for inclusion in the GBMA in Chapter 23 Matters of National Environmental Significance.
- One such recommended boundary change includes Burragorang State Conservation Area (BSCA), a large sandstone landscape area of 17720 ha with significant connectivity to the GBMA. Benson and Smith (2015) report that "The park is home to a high number of significant fauna, including Koalas, Tiger Quolls and the Powerful Owl."
- The eastern section of BSCA lies within the 13 km wildlife buffer of WSI. Under the Draft EIS, BSCA will be subjected to many overflights during a 24 hour period, many of which are below 2,500 ft and with noise levels up to 75dB(A)[7]. These flights will have a negative impact on the values of this area, and yet this negative impact has been dismissed as negligible in the EIS.

Noise

- Noise data provided for the GBMA and wilderness areas is inappropriate. There were no noise monitoring stations within the GBMA and no evidence of any quantification of ambient soundscape nor consideration for the likely duration of audible noise from overhead flights. Using 60dB(A) as a baseline strategy for these areas is clearly inappropriate and done as a measure of convenience.
- Whilst a reasonably broad literature search on the topic was conducted, the potential negative impact of increased noise levels on wildlife, particularly birds, is dismissed as negligible. This is despite some papers stating that impacts are not known, they vary for species and may lead to some species leaving an area or failing to successfully breed.

Wildlife and biodiversity

Negative impacts of Wildlife Strike, including with species protected under the EPBC Act and species that inhabit the GBMA.

- The GBMA has not been recognised as an area rich in wildlife and hence a major wildlife attractant, whose easterly border lies within the 13 km wildlife buffer.
- The recognition of the negative impact of wildlife strike on safety of aircraft has been underestimated and the data provided on the species involved in this risk is inadequate.
- An assessment of Wilderness area and GBMA biodiversity data is absent. Hence it is not possible to understand the potential negative impacts on the wildlife of these areas nor how these impacts would be mitigated.
- Whilst there is a statement that wildlife may use the whole landscape, the EIS fails to extend that whole of landscape use to the GBMA and hence fails to recognize that negative impacts on biodiversity beyond the GBMA boundary will also impact the biodiversity inside the GBMA.

Management and Mitigation measures

Little attempt has been made to design any means of mitigating the negative impacts of the proposed flight paths. This is partly a consequence of an absence of rigorous, comprehensive data but also an apparent lack of understanding of the connectivity of ecology across the landscape, and the great value placed on this area by both the Australian public and the international community.

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[6] Benson and Smith, 2015, *Chapter 2 Protecting biodiversity values in response to long-term impacts: additional areas recommended for inclusion in the Greater Blue Mountains World Heritage Area*, in "Values for a New Generation: Greater Blue Mountains World Heritage Area." Table 4 page 74.

[7] Western Sydney International (WI) – Airspace and flight path design Draft Environmental Impact Statement Technical Paper 1: Aircraft noise Fig 8.15, page 65.

- There is no attempt to mitigate the negative impact of noise on biodiversity, nor on visitors' experience of the GBMA or wilderness.
- No curfew is suggested that would provide some relief for visitors camping in the GBMA and for nocturnal fauna, which have not been considered at all in the EIS.
- The management and mitigation suggested for dealing with wildlife strike is to approve the proposed flight paths, and then negotiate, form committees, work with government and perform more surveys. This is completely inadequate.
- The GBMA (listed for its biodiversity) and other NSW State Conservation Areas, parts of which lie within the 13 km wildlife buffer, are wildlife attractants. How will such areas be "managed" to reduce wildlife and wildlife attractors such as trees and other vegetation, or the waterways lying with the Warragamba Special Area?
- WSI has had seven years since responses to the previous EIS in 2016 made clear the inadequacy of both the wildlife survey data and suggested alternatives for mitigation. They have failed in their duty to collect and provide this data.

The concerns listed above extend beyond the GBMA to the impact on public property which is part of the NSW Heritage Estate, and which lies next to the GBMA (for example, Burragorang State Conservation Park).

3. Technical Paper 1: Aircraft noise

Introduction

Submissions from other groups and individuals will address noise impacts on communities. The Society's specific interests in this submission are the impacts of aircraft noise on wildlife generally and on people enjoying the natural environment of the Blue Mountains, being residents, visitors and recreationists close to and within the Greater Blue Mountains Area (GBMA) and adjacent bushland areas. These impacts will occur at specific nature-based tourism/visitor sites and across bushland areas more generally.

Overall comments

No assessment of impacts on wildlife in Technical paper 1
Aircraft noise is known to impact wildlife, especially birds, yet Technical Paper 1 does not address this important topic. Our comments on this topic are included in our assessment of both Technical paper 5: Wildlife Strike and Technical paper 8: Biodiversity.

Inadequate explanation
Technical Paper 1 covers a complex specialist topic that is difficult for non-experts to understand, especially the various parameters of noise impact, how they interact and what a certain level of noise means compared to ambient noise levels and other noise impacts. Factors which make up total and cumulative noise impact from overflights include aircraft type (noise output), altitude, rate of ascent and descent, flight path, timing, respite and frequency. Noise impacts also result from the unique geomorphology of the GBMA and the length of time that the aircraft can be heard, neither of which are discussed. This paper could be improved for lay readers with some basic explanation of these factors in the WSIA context.

Lack of detail
The limited detail on some factors such as ambient noise levels makes it difficult to assess the additional noise which will result from WSI aircraft, especially away from built-up areas.

Inadequate treatment of bushland areas
The Technical Paper focuses mainly on noise impacts on suburbs and towns, with special attention to "Noise Sensitive Receivers" (NSRs) and aspects such as maximum noise levels and respite times. No NSRs were identified within the GBMA, no testing or monitoring was done in the GBMA, and hence the noise assessment for the GBMA is no better than vague.

No recognition of the "natural quiet" concept and its importance in natural areas, especially wilderness.
This is discussed further below.

Detailed comments

1.5 Purpose of this technical paper
This states (page 5) that:
"*The airspace and flight path design must take account of the following principles…*
(d) airspace and flight path design must minimise to the extent practicable the impact of Aircraft Overflight Noise on the following:
(i) residential areas;
(ii) Sensitive Receptors;
(iii) the Greater Blue Mountains Area World Heritage Property (GBMA WHP) – particularly areas of scenic or tourism value; and
(iv) Wilderness Areas."

However, the paper fails to delineate between the GBMA World Heritage Property (a listed world heritage property with a defined boundary) and the "Greater Blue Mountains" (a colloquial term referring to a vaguer region which includes the additional protected areas and other natural areas within the Blue Mountains City) and gives only cursory mention and consideration of Wilderness Areas (see Page 9 of this submission and EIS Chapter 23 MNES for a definition of "wilderness" from the Wilderness Act 1987). Most importantly, the paper fails to demonstrate how the airspace and flight path design minimises, as required, the impact of aircraft noise on the GBMA and Wilderness Areas.

The EIS's objectives and guiding principles in design of flight paths for WSI considers safety, and "to the extent practical, noise mitigation and environmental impacts". (Technical paper 1: Aircraft noise, Key messages page xiii).

4.2 Existing aircraft overflights

This section only vaguely assesses current aircraft noise impacts, which makes it impossible to assess the additional impacts likely from WSI. For instance, altitudes and noise outputs are not quantified for the existing overflight patterns.

Fig. 4.1 (p. 20) shows, in relation to the Blue Mountains, that current flights tend to be concentrated along the Great Western Highway corridor, in south-eastern Nattai National Park and around the Bindook Highlands associated with the VOR beacon in that area. Flights in most other areas seem to be infrequent.

4.3 Description of the surroundings

This Technical paper fails to mention the declared and very significant Kanangra-Boyd, Grose, Nattai and Wollemi wilderness areas within the GBMA[8].

On page 21 it is stated that the highest point in "the GBMA" is 1187m northeast of Lithgow. This is the highest point on the sandstone plateau of the Blue Mountains. Significantly higher terrain of over 1300 metres occurs in several parts of the area on other geology, including on the Boyd Plateau (Kanangra-Boyd), above Jenolan Caves and on Mt Bindo. This is an important error in a document dealing with aircraft.

4.5 Existing noise conditions around WSI

Fig. 4.2 shows ambient noise monitoring terminals are focused on residential areas, with none within the GBMA. Only three terminals are close to the GBMA: Linden (M25), Blaxland (M24) and Warragamba (M18), with one at Nattai (M21) within an adjacent conservation reserve (Burragorang State Conservation Area) and close to the visitor site of Burragorang Lookout which is assessed in section 9.10. The monitoring unit in Nattai was placed "centrally in the backyard of a house" on Burragorang Road. This site is not representative of a bushland setting away from urban areas.

Table 4.2 shows typical background noise level RBLs (rating background level) for the monitoring sites are mostly in the 30 and 40 dB(A) range. This metric "provides an ambient noise metric to assess changes in noise levels associated with aircraft operations. The assessment excludes the cumulative impact of train and road noise, present and future, which could be a contributing factor in some areas to the ambient noise level."

It could be expected that RBLs in bushland would be lower than at these monitoring sites which are subject to urban noise sources, especially deep within the GBMA and its constituent wilderness areas. Without measured RBLs, it is not possible to assess the additional impacts of aircraft noise from WSI.

6.6 Description of significance

"The quantitative evaluation of aircraft noise exposure is driven by cumulative effects of individual noise events, their frequency, duration and time of day." (p. 36). This statement neglects the fact that noise

[8] NSW Government, 2024, The Central Resource for Sharing and Enabling Environmental Data in NSW, NSW Identified Wilderness. Available online: https://datasets.seed.nsw.gov.au/dataset/nsw-identified-wilderness

impacts on also result from the GBMA soundscapes and the length of time that the noise from the overflight can be heard. Such a quantitative evaluation has not apparently been done for the GBMA.

7.1.3 Noise assessment objectives and elements
This section states as one of the key assessment elements:
"Characterising the current ambient noise environment across Western Sydney and the GBMA, including background noise levels and current noise exposure from aircraft…" (p. 37). Such a characterisation has not apparently been done for the GBMA.

8.9 Flight paths
Fig 8.15 (p. 65) shows significant concentration of flight paths over the eastern part of the GBMA, especially over the Blue Labyrinth – Lake Burragorang area and Grose Wilderness.

9.5.1 Maximum sound level contours
Fig 9.9 (p. 77) shows an example of a single event noise contour for Boeing B787-9 Day flight paths (5.30am to 11pm) and the contour envelope which covers arrivals and departures on Runways 23 and 05. It is clear from the Figure that this flight path will subject parts of the Blue Labyrinth-Lake Burragorang area of the GBMA to single event noise levels of 65 dB(A), which is highly intrusive.

9.7 Noise sensitive areas
The focus of the EIS is on community facilities. No NSRs or noise monitoring terminals were within the GBMA or at key tourism/visitor nodes (although impacts at the latter are picked up to some extent by nearby schools, hospitals, etc.). These were apparently not considered to be "noise sensitive areas". Consequently, no ambient noise data was collected from inside the GBMA or at key tourism/visitor nodes. Also not assessed were the projected parameters of "average sound levels", "maximum sound levels", "maximum sound level variations" or "respite".

We assert that important visitor nodes should have been included in the assessment of noise sensitive areas, not just dealt with briefly in section 9.10.1.

9.9 Noise induced vibration
The potential effects on native fauna of vibration due to low frequency noise at noise levels below 90 dB(A) are not considered here, nor in Technical papers 5 or 8.

9.10 Matters of National Environmental Significance (MNES) and other heritage considerations
Table 9.7 (p. 108) shows flights over the GBMA are projected to vary in altitude from 2000ft to 10000 ft above sea level (ASL) and produce noise levels of 50-65 dB(A).

Section 9.10.1 (p. 109) states that "A summary of the potential noise impacts associated with the proposal are briefly described in this section". A brief description is inadequate for impacts on a Matter of National Environmental Significance.

Section 9.10.1.1 (p. 109) describes a "variety" of ambient noise environments within and adjacent to the GBMA, without quantifying them. "Wilderness areas that are largely removed from human-induced noise" and "natural environments within the defined boundaries" are recognised as lying at the quieter end of this variety.

Section 9.10.1.3 (p. 109) acknowledges that "Overall, no specific aircraft noise criteria for conservation and wilderness areas has currently been developed." This is not a reasonable excuse for applying criteria and thresholds for airports generally and in the urban and peri-urban context.

This noise modelling and assessment methodology uses "70 dB(A) LAmax and 60 dB(A) LAmax noise exposure levels as impact thresholds for day and night-time operations respectively". No justification is provided for these levels, and it would seem no references or standards unrelated to airports are

consulted. These levels are not formulated for quiet natural environments and hence are a flawed standard for the GBMA and its constituent wilderness areas.

It goes on to say, "The overflight noise assessment for the project shows that a majority of the broader GBMA is largely outside the area predicted to experience aircraft noise at or above these threshold values (with the exception of some sections of the Blue Mountains National Park and between Lake Burragorang and the Great Western Highway, which at times may experience slightly higher noise levels …)". The 'threshold values' used are inappropriate.

This section also states, "In order to recognise the natural amenity and wilderness values of the GBMA, the assessment has considered the topography of the area and as such, the height of aircraft above ground level as they overpass the GBMA. This captured the variance in noise across peaks and valleys within the GBMA." It is not clear how this recognises the "natural amenity and wilderness values[9] of the GBMA". The effect of accounting for rugged terrain is to reduce the area subject to higher noise levels by discounting areas of lower elevation in the many deep valleys.

Figures 9.38 and 9.3.9 (p. 110) show that noise levels of 65 dB(A) will impact in the east of the GBMA between the northern Blue Breaks and Great Western Highway, and that the impact of noise levels of 60 dB(A) will extend across and beyond the GBMA both north and south of the highway.

Table 9.8 (p. 111) models that of 30 selected sites in the GBMA, many will be subject to LAmax noise levels of between 41 and 66 dB(A) during the day. The noisiest sites are in the eastern part of the area, closer to the airport where planes will be at lower altitude. A key shortcoming of the report is that it does not include a map of these 30 selected sites.

Table 9.9 (p. 113) presents models showing flight frequency for the same sites during the day will range from zero to 10-19 flights per day, at the specified noise levels. Again, the impact is focused on the east of the area, with Nepean Lookout being the most impacted site considered.

The assessment of noise impacts on the GBMA includes two key concluding statements:
"No areas of the GBMA would experience noise levels above the general assessment level of 60 dB(A) LAmax on a regular basis during operation of the project for any aircraft type considered" (p. 114).

"Noise levels over 70 dB(A) LAmax may be experienced occasionally by users of walking trails and camp sites within the areas of the Blue Mountains National Park near the Nepean River, and Warragamba Dam. However, maximum sound exposure levels will more typically range from below 50 dB(A) to 60 dB(A) based on the aircraft type, with some noisier wide-body jets reaching closer to 65 dB(A) near the flight paths" (p116).

Again, these thresholds are inappropriately high for the GBMA, its constituent wilderness areas and adjacent bushland.

Noise impacts in natural environments
The assessment fails to address the acceptability of artificial noise within protected natural environments and especially wilderness areas. Additionally, it fails to raise the ways that aircraft sounds interact with the Blue Mountains geomorphology, the cliffs, valleys and canyons and the impact of this interaction on a visitor's perception of noise levels and other acoustic qualities.

[9] Wilderness Act 1987. No 196. Available online: https://legislation.nsw.gov.au/view/whole/pdf/inforce/2024-01-27/act-1987-196

According to one authority, noise levels can be described as follows (Quebec Health: https://www.quebec.ca/en/health/advice-and-prevention/health-and-environment/the-effects-of-environmental-noise-on-health/noise-measurement):

40 dB(A)	e.g. library, refrigerator	perceived as peaceful but can disturb sleep
50 dB(A)	e.g moderate rain, washing machine	beginning of disturbance
60 dB(A)	e.g. normal conversation	
70 dB(A)	e.g. busy street, vacuum cleaner	disruptive when on telephone

Brisbane City Council lists the following examples (https://www.brisbane.qld.gov.au/laws-and-permits/complaints-and-fines/noise-air-light-and-water-complaints/noise-restrictions-and-complaints/acceptable-noise-levels-and-complaints):

- quiet room in a house - 20 to 30 decibels
- daytime in a quiet residential street - 35 to 45 decibels
- large busy office - 50 to 60 decibels
- lawn mower from 15 metres away - 70 decibels.

Based on these measures, and the ambient noise levels quoted for urban monitoring points, the ambient soundscape in remote bushland (i.e. unaffected by artificial sounds) would range, in the absence of loud natural sounds such as rushing water or loud bird/frog calls (all natural sounds), from close to zero to about 40 decibels. The levels applied in this Technical Report of 60 to 70 dB(A) are not only into the 'disturbance' zone in **already-disturbed** environments, but substantially higher than ambient levels in remote bushland and will cause significant intrusion and impact in those areas.

However, ANY occurrence of aircraft noise is an impact on the quietness and amenity of bushland, especially in wilderness areas and when introduced noise is louder than ambient natural sound levels. The Technical Paper 1 fails to consider the existing impact of overflights and the extent to which WSI will add to this intrusion.

Section 9 of the *NSW Wilderness Act 1987* specifies the following management principles for wilderness areas:

> A wilderness area shall be managed so as:
> (a) to restore (if applicable) and to protect the unmodified state of the area and its plant and animal communities,
> (b) to preserve the capacity of the area to evolve in the absence of significant human interference; and
> (c) to permit opportunities for solitude and appropriate self-reliant recreation (whether of a commercial nature or not).

Implicit in these management principles are the concepts of natural processes, unmodified areas and tranquility (solitude) for visitors. "Natural quiet" is a related concept that has received considerable attention internationally. E.g. see these references:

- Quiet Parks International (https://www.quietparks.org/)
- *Natural Quiet and Natural Darkness. The "New" Resources of the National Parks*, University Press of New England, 2018 (https://press.uchicago.edu/ucp/books/book/distributed/N/bo44308039.html)
- "Discover the planet's last few 'naturally quiet' places", National Geographic, 2020 (https://www.nationalgeographic.com/travel/article/discover-the-planets-last-few-naturally-quiet-places)

- "The Best Natural Quiet Parks to Visit in New Zealand" (https://theseventhgeneration.org/quiet-parks-new-zealand/)
- "Making a difference", National Parks Service (USA) (https://www.nps.gov/subjects/sound/difference.htm)
- "Quietest places in the world", Trevor Cox, *American Scientist* (https://www.americanscientist.org/article/quietest-places-in-the-world)

These concepts have been at the forefront of opposition to aircraft noise in places as diverse as the Grand Canyon and the Blue Mountains. Over the years, several successful community campaigns have been waged in the Blue Mountains against proposals for helicopter bases and scenic flights, in order to protect the natural areas, visitor sites and communities from the regular intrusion of introduced noise. One of the more recent being the Katoomba Airfield campaign (2019-2021) that saw the NSW Government refuse a commercial lease over the Airfield due to community opposition.

Technical Paper 1 fails to address, in any way, the concept of natural quiet and its importance within the GBMA, especially wilderness, and adjacent bushland.

Recommendations

Technical Paper 1 presents an inadequate assessment of the impacts of WSI aircraft noise on wildlife and on people enjoying the natural environment of the Blue Mountains, being residents, visitors and recreationists close to and within the world heritage-listed Greater Blue Mountains Area (GBMA) and adjacent bushland areas. Specific shortcomings of the Technical Paper are that it:

1. Does not include upfront a basic explanation of the various noise assessment parameters and how they interact in the WSI context.
2. Fails to assess the potential impacts on native fauna of aircraft noise, and of vibration caused by low frequency noise at levels below 90 dB(A).
3. Fails to recognise that ANY additional aircraft noise will cause significant intrusion and impact on the quietness and amenity in the GBMA.
4. Does not assess the impacts of additional noise on the tourism economy.
5. Fails to address in any way the concept of natural quiet and its importance within the GBMA, especially wilderness, and adjacent bushland.
6. Only briefly and inadequately assesses noise impacts in the GBMA (a Matter of National Environmental Significance) and on key tourism/visitor nodes, by:
    - failing to collect ambient noise data from within the GBMA,
    - not measuring RBLs in natural areas,
    - not assessing "average sound levels", "maximum sound levels", "maximum sound level variations" or "respite" in the GBMA,
    - omitting quantitative evaluation of aircraft noise exposure and not characterising the current ambient noise environment in the GBMA,
    - applying flawed noise standards and thresholds to natural areas that have very low ambient noise levels,
    - failing to quantify altitudes and noise outputs for the existing overflight patterns,
    - not including a map of the 30 selected visitor sites in the GBMA (Table 9.8).

It is the Society's expectation that all the above recommendations must be assessed to ensure an appropriate and valid assessment of environmental impacts.

4. Technical paper 5: Wildlife strike

Introduction

The Society's interests in this submission focus on the impacts of Wildlife Strike and Noise on the biodiversity of the Blue Mountains natural areas and the GBMA.

The closest point from the end of the runway to the GBMA's nearest boundary is 8.40 km and to Burragorang State Conservation Area (BSCA) is 9.45 km as measured on Google Maps Pro (20 Jan 2024). The proximity of WSI to these areas is not stated in this Technical paper although it is raised in MNES Chapter 23. Recognition needs to be given to the fact that the distance to both GBMA and BSCA is just outside the 8km wildlife buffer and within the 13 km wildlife buffer.

The Noise Tool[10] provided on the WSI website shows noise levels and altitudes for the following flights:

- RWY05 – B787 Arrival West Day. Flights less than 3,000 ft over the Warragamba Special Area and less than 2,500 ft over Burragorang State Conservation Area (BSCA) with a noise level of 70dB(A).
- RWY05 Arrival North 2.RPN Day – A320. Flights less than 2,407 ft over BSCA with a noise level of 70dB(A).
- RWY05 Arrival North Day. Flights less than 2,500 ft over BSCA with a noise level of 70dB(A).
- RWY23 Departure South (Hot) Day – B787. Flight less than 3,000ft over BSCA and noise level 75dB(A).

Note: all low flights over BSCA will also fly low over Warragamba Special Area.

These low flights will have a negative impact on the biodiversity of these areas and are a wildlife strike risk in areas not surveyed during the preparation for this EIS.

Whilst it is acknowledged in the EIS that wildlife, particularly birds and bats, use the whole landscape in a dynamic fashion, Technical paper 5 overlooks the fact that this use continues into the Greater Blue Mountains Area (GBMA) and other nearby protected areas. Hence, if species that move into and out of the natural protected areas are at risk of negative impact from airport operations, this can also affect the biodiversity within the GBMA.

The Society recognises that noise will have a significant and negative impact on many suburbs of Western Sydney and villages in the Blue Mountains City Council Local Government Area. Additionally, wildlife strike creates a significant risk for passengers and aircrew. Our submission does not focus on these two concerns, but they will be the subject of community and individuals' submissions.

Overall comments

The EIS acknowledges that the assessment results presented on wildlife surveys and strike risk are to be "viewed as preliminary" (Executive Summary). This is concerning, especially since the same claim of "preliminary" results was made in the 2016 EIS. It is expected that over the past 7 years a far more detailed and comprehensive set of surveys covering all seasons over many years, including the GBMA and adjoining protected areas, could have been completed. This would have provided an improved understanding of the biology of the species that may be at risk from the operation of the airport, a better understanding of risk

[10] Australian Government Department of Infrastructure, Transport, Regional Development, Communication, and the Arts, Western Sydney International (Nancy-Bird Walton) Airport, Aircraft Overflight Noise Tool. Available online: https://wsiflightpaths.aerlabs.com/?lng=en#skipping-intro

of wildlife strike and allowed WSI to detail a range of alternative actions – including impact mitigation - that could be taken. This detail is missing from the EIS and hence it does not fulfil its mandatory requirements.

The EIS does provide information about migratory waders that are subject to international agreements[11], threated species and communities subject to protection under the EPBC Act, and a detailed map of water bodies within 30 km of the airfield that are potential high-risk sites, given that Australian White Ibis may use these areas. Similarly, they have identified flying-fox camps within the 30 km wildlife buffer which also may be high-risk sites.

Included is a brief discussion on aircraft noise and avifauna which draws upon a broader range of references than were considered in 2016 EIS. This is commendable, but the problem is not resolved. The Society discusses the issues relating to noise in the response to Technical paper 8: Biodiversity.

Detailed comments

Executive summary
Most wildlife strikes in aviation occur at or below 3,500 ft, and therefore the primary concerns are approach and departure paths at this altitude or below.

The report emphasises managing populations, particularly of flying-foxes and Australian White Ibis, in a way that minimises their strike risk while conserving native wildlife populations. However, we contend that there is no suitable way to "manage" the Grey-headed Flying-fox populations, listed as threatened under the EPBC Act (further discussed in our response to Technical paper 8).

Flights using the flightpaths RWY05 and RWY23 fly low over Burragorang SCA and the Warragamba Special Area, with at least two of these flight paths less than 3,000 ft [Western Sydney International (Nancy-Bird Walton) Airport Overflight Noise Tool]. Yet there is no indication that wildlife of these areas has been surveyed.

The report does not provide any details of how populations of birds or bats that are a strike risk might be managed nor how collision with flying wildlife might be mitigated, what impact the noise from overflights might have on birds in the GBMA and fails to adequately collect data on the species present within the 30 km wildlife buffer zone (which include Blue Mountains National Park and Burragorang SCA) over a length of time that will give a basic understanding of how the wildlife uses the landscape. The EIS acknowledges this failure in its Conclusion.

Chapter 1 Introduction
1.3 Purpose of this technical paper
The paper's purpose is to report on the risk to aircraft caused by wildlife strike risk and to place that risk within the context of the Western Parkland City and Western Sydney Aerotropolis, and government commitments to biodiversity.

1.4 Study Area
Study area is defined by three categories: Airside, off-airport, flying-fox camps.

Airside is the airside area contained by the perimeter fence and appears to have been suitably surveyed given the limitations imposed and detailed in Chapter 3, 3.4 of the Technical Paper.

Off-airport extends to 13 km and includes wildlife buffers of 3 km, 8 km, 13 km and notes any area or structure that is identified as an actual or potential wildlife attractant. Sites beyond the 13 km buffer and up to 30 km were included if wildlife activity at that site was deemed a hazard.

[11] Technical paper 5, page A-4, A2 Environment Protection and Biodiversity Conservation Act 1999.

Note: the closest points of protected areas of the Blue Mountains lie just beyond the 8 km buffer and within the 13 km buffer. However, it appears from Figure B.4 (Off-airport wildlife hazard locations within the 13 km wildlife buffer) that only **one** survey point (The Rock Lookout) lying within the GBMA is included in the surveys. The Rock Lookout is 10.8 km from the runway (measured on Google Earth Pro 20 Jan 2024) and lies 110 m from the boundary of the GBMA.

Chapter 2 Legislation and strategic context
In Table 2.1, it is noted that the International Civil Aviation Organisation (ICAO) guidelines consider the radial distances from airports are 3 km, 8 km and 13 km are to be used for allocating risk categories to airports.

Chapter 3 Methodology
We have commented on the inadequacy of the Wildlife surveys in our response to Technical Paper 8 Biodiversity.

The surveys conducted by Avisure and WSI detailed in this Technical paper are inadequate. The stated methodology makes clear that biodiversity assessments conducted in the GBMA were limited to one survey site, The Rock Lookout on the eastern boundary of the GBMA. No surveys were performed in adjacent State Conservation Areas. The EIS does not provide bird lists of all species that are likely to occur in Burragorang State Conservation Area, Yerranderie SCA, Warragamba Catchment Area and other parts of the lower Blue Mountains natural areas. It is not clear if a desktop audit of the species present in these areas was completed, as no reference is made to the results of this audit in the EIS.

The findings from this Technical paper have been used to inform both Technical paper 8: Biodiversity and Technical paper 14: Greater Blue Mountains World Heritage Area.

Chapter 4 Existing conditions
This chapter describes the airport site which is in Badgerys Creek, and the surrounding land use and natural elements.

4.1 Sensitive receptors
The primary biodiversity "sensitive receptors" are listed as flying-foxes and the Australian White Ibis, due to potentially significant issues with these species (wildlife strike).

Chapter 5 Facilitated changes
Actual wildlife strike risk will be realised following the commencement of operations. Given the difficulties described in this report about assessing the potential for collision particularly with flying-foxes and the impact on their populations, it is crucial that rigorous, scientifically based assessments continue with sound and humane mitigation and management methods in place where necessary. It is also important that this data is made available to the public in an accurate and transparent manner.

Chapter 6 Impact assessment
Assessment identified the Australian White Ibis as high risk of wildlife strike and noted breeding colonies in the vicinity of WSI.

6.1 Wildlife strikes and Western Sydney International Airport
The Society's focus is on the wildlife in the GBMA and adjacent protected areas. However, it is important to understand that wildlife (especially birds and bats) moves between suitable habitat across the Sydney Bioregion and so adverse impacts on birds near the WSI may also impact on the biodiversity of the GBMA. We are particularly concerned about the risk of wildlife strike to populations of Grey-headed Flying-foxes, Australian White Ibis, White-bellied Sea Eagles and Wedge-tailed Eagles and other species that may fly or soar across the flight paths as planes depart or arrive into WSI.

The EIS notes that based on airport movement projections and in line with rates of wildlife strike from other airports in Australia, in 2033 there would be 39 strikes and in 2055, 108 strikes (annual number). Furthermore, there will be one "adverse effect" strike (causing damage or delay) every 2 years on average. These rates assume a "rigorous and integrated wildlife management program, aviation safeguarding principles are incorporated into land use planning decisions, and land users at least within 13 km of the airport effectively manage their contributions to WSI's strike risk."

No indication is given as to what this wildlife management programs would be comprised of and whether it is humane nor the effect on species populations.

The EIS acknowledges the difficulty in projecting strike risks and rates given the airport is non-operational.

6.2 Airside Wildlife

It is noted that WSI considers the results to their risk predictions are "preliminary". "The results are based on a limited data set and should be viewed as provisional." This confirms that the survey frequency and duration (as reported in their methods section of the EIS) has not been adequate.

6.3.2 Flying-foxes

Seven camps have been identified within the 20 km of the WSI footprint. It is unknown how often the flying-foxes use these camps but the species is reported to generally continue to use the same camps over many years. It does not state in the captions for the figures nor in the accompanying text, which species of flying -fox uses each camp. It is likely that most of these camps are Grey-headed Flying-foxes.

Of the eight camps monitored by Avisure, six were active and are within 30 km of the airfield. Seasonal surveys were not achieved by Avisure due to project delays and so the EIS states that conclusive trends are not possible.

The EIS presents some scenarios showing directions flying-foxes might travel in crossing the flight paths of aircraft departing or arriving into WSI and that could bring them into collisions with aircraft. As there is insufficient data about the behaviour of these populations of flying-foxes it is unknown how likely these events would be.

The EIS states that there needs to be detailed population studies and flight characteristics of the flying fox as well as ongoing monitoring to develop baseline information to anticipate the impact of air operations on the Grey-headed Flying-Fox (*P. poliocephalus).* Hence, there is "no evidence to support whether it is or is not a likely threatening process. In the case of *P. poliocephalus* the precautionary principal argues mortality should be avoided." We agree with this last statement.

Flying-fox camps are sites where flying-foxes have established daytime roosts, including 8 camps within 30 km from WSI. Seven of these camps were outside the 13 km wildlife buffer zone and these were included in the study since flying-foxes are known to travel up to 50 km from their camp to forage. Flying-foxes were also the most reported species group struck at Australian airports between 2008 and 2017.

Again, no camps were identified or within the GBMA or the Blue Mountains Local Government Area. Flying-foxes are known to visit the Blue Mountains villages; in previous years, they had a temporary foraging site at Lawson NSW which is 29 km from WSI. The EIS has overlooked the possibility that flying-foxes will travel from areas of the GBMA towards WSI and intersect with the airspace. If an analysis of desktop data clearly shows that there are no camps in the GBMA, then this should be stated in the EIS.

It is important that this lack of information is acknowledged, and that data is collected from experts on this species so that appropriate management and mitigation can take place before the airport is operational.

The EIS does not provide details of any mitigation measures, beyond recommendations for consultation, formation of mandatory committees and working groups, contribution to regional species management

programs, “identify locations where . . . mitigation measures to manage wildlife strike risk are required”. and ongoing monitoring. The EIS mentions that other airports have off-airport mitigations which is claimed to be effective. (Chapter 8 Management and mitigation measures 8.1 Existing mitigation measures in relation to wildlife management). However, there is no detail about what such measures may be or alternative suggestions for effective measures. Given the number of references to data on wildlife strike from other airports, it would have been appropriate to include examples of effective measures also. We have further discussed potential impacts of the proposed flight paths on flying-foxes in our response to Technical paper 8.)

6.4 Threatened and migratory species

Table 6.8 summaries the threatened and migratory species identified during the wildlife surveys and those species identified by the EPBC Act Protected Matters Search Tool (PMST) within 13 km of the WSI runway boundary. Four protected species were identified by this method.

6.6 Aircraft noise and avifauna

This section is an improvement over the 2016 EIS. The current draft EIS includes many more references to scientific research on the impact of anthropomorphic noise (including from airports and aircraft) on wildlife. As acknowledged in the EIS, most of this research has been on birds and little on any other wildlife species. There is a noticeable paucity of research from Australian contexts, especially in relation to airports and aircraft.

The noise contours for aircraft flying over Burragorang State Conservation Area and the Warragamba Protected Areas show that noise levels will be up to 75dB(A). This is far above the ambient noise level of about 25 –30 dB(A) for natural areas away from urban sites. These flights will be constant over the course of 24 hours. The impacts of this level and type noise on birds and other wildlife is unknown in Australian situations.

From our readings on overseas studies, it is apparent that several things can happen when birds are subjected to regular high levels of anthropomorphic noise –

- They leave the area. (This may be a stressor if the species is territorial.)
- They are less able to detect prey or predators.
- They become stressed and this affects their breeding cycle
- They may change their vocal behaviour
- Their ability to communicate is affected and they find it harder to find mates.
- Some species are more adversely affected than others
- Some species may adapt to the disturbance.

The EIS lists similar impacts of noise on birds. The comment is made in the EIS that different species respond differently and that some birds appear to be minimally impacted, with published research and anecdotal communications referred to in support. We accept that this is the case and that the direct impact of aircraft noise on some birds will be minimal.

However, we do not agree with the decision to dismiss the potential impacts as unimportant or negligible, just because there is a failure to collect evidence which shows potential negative impact on birds in the GBMA and other adjacent natural areas such as Burragorang SCA, Nattai SCA and the Sydney Water Protected Area.

A cursory analysis of Birdlife’s “Birdata” website[12] and bird lists provided by Oakdale Flora and Fauna Conservation Society[13] show that of the many woodland, forest and waterbird species that use these SCAs, several are listed as endangered or vulnerable both Federally and in NSW. Some birds such as the Superb

[12] Birdlife Australia. Available online: https://birdata.birdlife.org.au/home

[13] Oatley Flora and Fauna Conservation Society, 2024, The Burragorang, Available online: https://www.oatleyflorafauna.org.au/index.php/2021/07/22/the-burragorang/

Lyrebird use the moist creek lines in the GBMA[14] and protected areas close to the airfield. Burragorang SCA and GBMA for example, lie within 10 km of the runway and flights will go overhead under 3,000ft at a noise level of about 75dB(A). A literature search failed to locate data on the impact of anthropogenic noise on the displays of these iconic birds.

A loss of suitable habitat because of the aircraft noise will reduce the bird populations and diversity in the World Heritage areas. Since these birds are important in the ecosystems for pollination of flowers (including eucalypt flowers) distributing seeds of some plants and controlling insect populations, reduced numbers of birds will over time lead to a degeneration of the ecosystems.

Chapter 7 Cumulative impacts
The EIS is unable to adequately assess the potential cumulative impacts from wildlife strikes, given that there will be changes to land use from Western Sydney Aerotropolis and recommends ongoing monitoring and early detection of concerns.

Chapter 8 Management and mitigation measures
The management and mitigation measures detailed fall short of the claim that they are comprehensive and rigorous. They largely consist of "plans to make a plan" and detail the committees, plans, consultation and negotiation that must occur, but without any detail of what actual mitigation or management might be, and the various alternatives that might be considered. For example, will plans include culling of populations, removal of vegetation, removal of breeding sites, nests or eggs, trapping and relocation of individuals, alteration of flight paths and times of departure or arrivals according to time of most activity of flying-foxes. What type of monitoring might occur and over what period, and how will this be reported?

Given the references elsewhere in this EIS to actions and conditions at other airports in Australia, it seems reasonable that reference could be made to which of these might be considered.

Chapter 9 Conclusion
The EIS is clear about the need to understand how wildlife use the areas in the vicinity of the airport over time to avoid the risks of impact with aircraft, for largely safety reasons as well as to protect biodiversity. They refer to the risk assessment of 73 sites within 30 km of WSI and yet only one site (The Rock Lookout) on the very edge of the BMNP is included. Further sites in Burragorang SCA, Warragamba Special Area and the south-eastern edge of the BMNP need to be included in future monitoring.

<u>Recommendations</u>

1. Off-airport wildlife (bird and bat) surveys need to be repeated using a consistent method over all months of the year for at least 2 years, and preferably 3 given that climatic conditions (dry or drought, wet, flood) can cause substantial changes in wildlife populations. These surveys include within the GBMA close to the airport (lower Blue Mountains National Park and Nattai National Park), Warragamba Special Area and Burragorang SCA.

2. Survey data needs to be made available to the general public for accountability and to allow their comment.

3. Analysis of the data will allow an assessment of likely impacts and recommendations for mitigation of negative impact. Advice from the World Heritage's resource "Guidance and toolkit for impact assessments in a World Heritage Context"[15] clearly states that if there is insufficient data to assess the impact of negative actions, then the action should be avoided or mitigated. This oversight needs to be

[14] Hughes et al, 2023, Preferred nesting habit of the slow-breeding Superb Lyrebird is rare and was disproportionately impacted by Australia's Black Summer Megafires (2019-2020) within a World Heritage Area, Ornithological Applications, Volume 125, Issue 4, 6 November 2023. Available online: https://academic.oup.com/condor/article/125/4/duad027/7223212
[15] UNESCO World Heritage Convention, 2024, Guidance and Toolkit for Impact Assessments in a World Heritage Context. Available online: https://whc.unesco.org/en/guidance-toolkit-impact-assessments

rectified and the relevant data collected on species. If the data cannot be collected, then the flight paths over this area should be redirected elsewhere. This action (the proposed flight paths) is incompatible with UNESCO World Heritage advice.

4. Although Technical paper 5 includes reference to legal obligations such as the EPBC Act and Australia's obligations as signatories to various international agreements relating to migratory waders, there is no mention of Australia's obligations for the protection of World Heritage Areas in this paper (it is referred to in Chapter 23 MNES). This has resulted in a serious oversight, given that the airport lies near the globally significant GBMA, a world heritage area declared for its Outstanding Universal Values of biodiversity, which contains large tracts of wilderness of international renown. A revised EIS must demonstrate how it is acting to protect the World Heritage Area.

5. Details of actual and alternative mitigation measures which will reduce the negative impacts on wildlife and biodiversity need to be described and included in a revised EIS. If mitigation cannot reduce a negative impact on GBMA to an acceptable level, then the action should not occur. This may include redesigning the flight paths.

5. Technical Paper 7: Landscape and visual amenity

Introduction

The Society's specific interests in this submission are the visual impacts of aircraft flights on amenity for people enjoying the natural environment of the Blue Mountains, being residents, visitors and recreationists close to and within the Greater Blue Mountains Area (GBMA) and adjacent bushland areas. These impacts will occur at specific nature-based tourism/visitor sites and across bushland areas more generally.

Overall comments

Well-presented and sound analysis of impacts
The impacts are well-explained and described, so as to be readily understandable. Despite some flaws, the methodology and assessment are mostly well-justified and fair. This Technical Paper is thus a significant improvement over Technical Paper 1: Aircraft noise. Particularly welcome is the application of the concept of Sensitivity, which recognises that places vary in terms of the impact of any intrusion and that natural locations are particularly sensitive.

Incomplete understanding of tourism sites and visitor use patterns in the Blue Mountains
Technical Paper 7 includes several minor mistakes and idiosyncrasies as well as some significant omissions. In particular, it misuses the term 'wilderness' and fails to recognise the existence, extent and significance of wilderness areas declared under the Wilderness Act [16] and within the GBMA. This is despite the inclusion of a definition of "declared Wilderness" in Chapter 23 MNES in addition to a list of the recognised wilderness areas in GBMA.

Detailed comments

Figures 2.1 to 2.5
The size of the maps showing flight paths are appropriate and a significant improvement from those in Technical Paper 1.

4.1.2 to 4.1.4
Referencing key planning documents and principles for the protected natural areas, relevant to landscape and visual amenity, is commended.

4.3.7 and 4.3.8
Likewise, recognition of the importance given to landscape and visual amenity in Blue Mountains local planning instruments is welcome.

5.3
This rightly states: "The location of a view on a tourist route or within an area of wilderness or historic importance typically increases its sensitivity due to the greater number of likely viewers and the greater emphasis that travellers, tourists and recreational users have on landscape appreciation."

However, the term 'wilderness' here and in many other parts of the Technical Paper is used inaccurately and misleadingly. Technical paper 7 page 29 is an example of this misuse of the term. In the context of this EIS the term should not be used in its vernacular sense, but only applied to areas declared as wilderness under the *Wilderness Act 1987*. This means the Wollemi, Grose, Kanangra-Boyd and Nattai wilderness areas which overlie much of the GBMA and will be subject to overflight impacts. Other areas termed 'wilderness' in this paper should be termed 'natural areas', and when necessary this term could encompass the declared

[16] NSW Government Department of Planning, Industry and Environment, 2011, Wilderness Act, 1987. Available online: https://www.environment.nsw.gov.au/legislation/WildernessAct1987.htm

wilderness areas. This issue is important because declared wilderness has legal status and implies a higher level of protection from, and sensitivity to, intrusion.

The list of 'key receptors' chosen has some idiosyncrasies and gaps. Two major lookouts missing are Govetts Leap and Kanangra Walls. Note that the 'Greater Blue Mountains Drive' was not 'identified' by NSW National Parks and Wildlife Service (NSW NPWS) but had its origins in a Blue Mountains Tourism project.

Chapter 6 Methodology
Overall the methodology is well-explained and accepted as valid. In particular, the application and explanation of the concept of Sensitivity in both landscape (6.2.1.2) and visual (6.2.2.2) terms is commended.

It is noted that natural and protected areas are validly recognised as being of 'Very high' sensitivity (Tables 6.1 and 6.4), that landscape and visual amenity values can be impacted by planes and contrails in the sky (6.2.1.3), and that 'changes in remoteness and tranquillity' are recognised (6.2.2.3).

Figures 6.1 to 6.3 are commended, showing how visual magnitude is dependent on the viewscape character as well as the distance, altitude and frequency of visible aircraft, and providing some visual reference.

6.3 Limitations and assumptions provides a good description of these.

Table 6.11, as explained above, mis-applies 'wilderness areas' to natural areas (not declared wilderness) in the Nepean River and Bowens Creek areas. The reference to 'Bowens Creek Valley and Mt Tomah, without referencing the dominant landscape feature of the Grose Valley is curious, especially given that the Grose Valley is given appropriate prominence later (e.g. Table 7.1.3).

The potential persistence of contrails is also an important consideration for visual impact.

7.2.2.1
As much as we would like the situation to be otherwise, scenic and landscape values are not (yet) recognised as specific world heritage values for the GBMA. However, they are unofficially recognised as an important and internationally recognised characteristic of the area, its attraction, and the tourism industry.

Table 7.13 appropriately classifies the 'Blue Mountains iconic features landscape' as being of 'Very high' sensitivity for landscape impact. This zone should include the important visitor lookouts. Quantifying the impact through altitude, and frequency of flights is appropriate, as is the recognition that 'The character of aircraft, and at times contrails, would contrast with the natural forms of clouds in the sky and natural features of the land'.

7.2 Assessment of landscape character zones - The Blue Mountains
The three zones are poorly delineated and distinguished, especially between LCZ13 and LCZ14. They should also be shown on a map. It is not clear which zones include the important lookouts in the Blue Mountains, which are of different character to the townships per se. They should be included in LCZ13 and classified as 'Very high' sensitivity.

7.2.2.1 includes an erroneous statement. The area is not 'dominated by eucalypt species unique to the GBMA' but dominated by eucalypt species, **some of which** are unique to the GBMA.

Table 7.14 should classify the 'Blue Mountains forested hills and valleys landscape' (LCZ14) as of Very high sensitivity, the same as the 'iconic features' landscape. It is not clear why the alleged absence (which is not entirely true) of 'iconic features' such as major cliff lines in LCZ14 should reduce sensitivity. Further, the

remote and natural country and declared wilderness that makes up much of the of the 'forested hills and valleys landscape' is a reason to classify sensitivity at the highest level.

Table 7.15 should exclude the important lookouts from this zone.

8.1.2 Assessment of representative viewpoints – The Blue Mountains
The first paragraph misapplies the term 'wilderness areas'. The declared wilderness areas do not include, and specifically exclude, 'day use facilities and campgrounds'.

8.1.2.1
The selected scenic lookouts include some anomalies. Cleary Memorial Lookout is minor, whereas some major lookouts that would widen the geographical scope of the assessment should be included, such as McMahons Lookout, Kanangra Walls Lookout and either Govetts Leap or Evans lookouts on the Grose Valley.

The map showing flight paths in relation to the selected lookouts is very helpful.

The assessment of sensitivity, visual impact and magnitude of change for each viewpoint (including campgrounds and scenic routes) in **Tables 8.10 to 8.19** are reasonable. The detailed application of distance, altitude and frequency of flights is supported.

There is a major omission in the assessment. It focuses on human-dominated 'viewpoints' but does not include the very important wilderness areas declared under the Wilderness Act 1987. Although these areas are less frequented by people, they are declared under legislation which recognises 'opportunities for solitude and self-reliant recreation'[17]. Their proximity to Sydney and other large populations means they are heavily used for these experiences, which inherently include the seeking of tranquillity and natural conditions with nil to minimal human intrusion. These areas are thus extremely sensitive to visual intrusion by aircraft and should be given specific assessment.

Table 8.15 includes a reference to 'Little Blue Gum canyon' which is not a known place. The gorge in which Little Blue Gum Forest sits is officially Grose Gorge.

It is strange that this paragraph does not reference the most important scenic lookouts in this area such as Perrys Lookdown, Govetts Leap, Evans Lookout and the Mt Hay area.

In this table and others, the scenic values of some areas are appropriately recognised as being of 'national and international importance'.

8.2.4 Intrinsically dark landscapes
The statement that 'Apart from designated campgrounds, there would not be much activity in these areas at night' is wrong. This section again overlooks wilderness areas and their sensitivity to nighttime visual intrusion. Bushwalking with overnight camping, often for several days, is the primary use of these 'intrinsically dark' areas that are remote from and generally unaffected by artificial light. Although total numbers may be low compared to tourist lookouts and campgrounds, enjoyment of a 'natural' night sky is an inherent aspect of experiencing wilderness and should not be ignored.

The conclusion of **Table 8.25** that 'Overall, the effect of the project lighting would be experienced across a small portion of the landscape by few people' is therefore misleading.

[17] NSW Government Department of Planning, Industry and Environment, 2011, Wilderness Act, 1987. Available online: https://www.environment.nsw.gov.au/legislation/WildernessAct1987.htm

Chapter 9 Impact on the GBMA landscape values

Table 9.1 is mostly a fair assessment of this topic. However, there are some errors and shortcomings:

- 'Grosse Valley' should be Grose.
- The list of 'historic lookouts' which may be impacted (p. 152) is idiosyncratic and lacking as in Chapter 8. Some of the noted lookouts do not look south, while other important lookouts are excluded, such as Govetts Leap and McMahons Lookout.
- The 'No direct or indirect impact' on 'wilderness values' (p. 152) is a false assessment, as explained above. This should be integrated with the above assessment on 'Vantage points on ridges and escarpments' which are prevalent in the wilderness areas.

10.2

It is important that the cumulative impacts on the GBMA are recognised.

11.1

The sensitive areas listed are idiosyncratic, especially in relation to wilderness. The Nattai wilderness is a correct reference, but four of the 'wilderness' areas noted are described strangely and are in fact part of four declared wilderness areas: Yengo, Wollemi, Grose and Kanangra-Boyd. There is no Kanangra-Boyd lookout, presumably this is meant to be Kanangra Walls Lookout. Mount Yengo lookout is also unknown. The logic of Baal Bone Gap is elusive.

If these areas were 'considered' as 'constraints', does this mean they were treated as areas to be avoided for overflights? If so, this should be stated clearly.

11.2

This paragraph is not well-expressed, and the 'consideration' of 'scheduling adjustments' would seem to offer very limited scope for any reduction of impacts. Is this the only potential mitigation measure offered? The recognition of the 'nationally significant view corridor' is welcome, but this has not previously been identified in the Technical Paper as a key consideration.

<u>Recommendations</u>

The Technical Paper applies sound methodology and is largely an effective, well-presented and fair assessment of the WSI on the landscape and visual amenity of the Blue Mountains, with some specific errors and shortcomings. The application of a sensitivity parameter is particularly commendable. Minor errors are noted above. Specific shortcomings are:

1. Repeated misunderstanding of **wilderness** in the GBMA context.
2. Failure to specifically and adequately recognise the landscape and amenity values of **declared wilderness areas** and the impact of WSI on them.
3. Poor delineation and justification of the **landscape character zones** in the Blue Mountains. They should be shown on a map. The important lookouts should be specifically included in LCZ13 'iconic features'.
4. LCZ14 'forested hills and valleys' has been mis-characterised, without justification, as being less sensitive than LCZ13. It should also be assessed as 'Very high'.
5. The viewpoints selected for assessment are partly idiosyncratic, omit some important lookouts while including minor ones, and should be reconfigured.

It is the Society's expectation that all the above shortcomings must be addressed to ensure an appropriate and valid assessment of environmental impacts.

6. Chapter 16 Biodiversity and Technical Paper 8: Biodiversity

Introduction

The Society's interests in this submission are the impacts of aircraft flights on the biodiversity of the Blue Mountains, including in the towns and villages, and the Greater Blue Mountains Area (GBMA). As it is known that wildlife (including vertebrate and invertebrate species) moves across landscapes and between bioregions, a significant impact from WSI on a population of animals occurring in habitats close to the broader Sydney Basin may also have a significant impact on the biodiversity of the GBMA. Therefore, the Society has also considered significant impacts on biodiversity in areas beyond just GBMA. This is in keeping with the statement from the UNESCO World Heritage Committee in 2023, in recognition of the Federal Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act):

"Importantly, this [EPBC] Act also aims to protect matters of national environmental significance, such as World Heritage properties, from impacts even if they originate outside the property or if the values of the property are mobile (as in fauna). It thus forms an additional layer of protection designed to protect values of World Heritage properties from external impacts. (section "Protection and management requirements"[18])

Overall comments

Some aspects of the potential impacts on biodiversity were more thoroughly discussed in the 2023 EIS than in the 2016 EIS. There was a much stronger focus on possible impact of noise on bird populations and many more research papers included in the reference list. However, there is still a poor understanding of the ambient noise levels in the GBMA away from urban areas and transport corridors, the likely impact on the birds of the GBMA near the airfield and no recommendation in the EIS for further research into effects of noise in these places to ensure any negative impacts are limited.

Incomplete understanding of the biodiversity of the GBMA, and the associated protected areas including State Conservation Areas, and the biodiversity of the Blue Mountains in general. The Technical paper showed no understanding of the biology and behaviour of many species of native fauna especially those harder to survey taxa such as frogs, so there is no assessment of any possible impact on them of aircraft noise within the wildlife buffer. In relation to the Grey-headed Flying-fox this paucity of knowledge will heighten the risk of wildlife strike with this species.

Inadequate survey methodology conducted over a very short time frame, which has failed to provide robust data on which to base an assessment of likely negative impacts on species.

Management and mitigation. No actual management or mitigation measures are included. In both Technical paper 8: Biodiversity and Technical paper 5: Wildlife strike we are given only "plans to make a plan".

Comments on the presentation.
Technical paper 8: Biodiversity is comprehensive at 477 pages. It is pleasing to see this level of attention which is fitting for such an important topic. The birthplace of conservation in Australia is in the Blue Mountains; Myles Dunphy recognised the irreplaceable value of this wilderness including in Blue Gum Forest and the Kowmung and Coxs Rivers.[19]

Chapter 16 and Technical paper 8 include considerable jargon and at times the wording is complex and difficult to understand. One typical example of clumsy wording is this sentence (Technical paper 8:

[18] UNESCO World Heritage Convention, 2024, Greater Blue Mountains Area. Available online: https://whc.unesco.org/en/list/917/
[19] Wikipedia, 2023, Myles and Milo Dunphy. Available online: https://en.wikipedia.org/wiki/Myles_and_Milo_Dunphy

Biodiversity Appendix C page C-3) on the impact of light on the Grey-headed Flying fox: "Due to this, existing artificial light within the locality and the impacts being largely limited to higher altitudes above which the species typically occurs light impacts associated with the proposed action are considered unlikely to disrupt the breeding cycle of the Grey-headed Flying-fox."

Frequent use throughout Chapter 16 and Technical paper 8 of qualitative terms such as "high", "negligible", "unlikely", "likely" do not provide the reader with any real understanding of the extent to which any aspects of the environment, biodiversity, wilderness values will be affected, nor the real risk of wildlife strike.

Use of the term "biodiversity values" in some instances is very confusing; for example, this sentence in Technical paper 8: Biodiversity (Chapter 1, 1.3 page 4) "Consideration of the Airport Site relative to the land uses in the vicinity is important as some biodiversity values are likely to use the whole landscape interchangeably, …" rather than the simpler "species of wildlife are likely to use...". It is interesting that the comment made is that wildlife (who have used this landscape for hundreds of thousands of years) are impacting on the airspace, rather than the aircraft impacting on the wildlife's (traditional) airspace.

Detailed comments

Executive Summary

We are told that "WSP" was engaged to assess the biodiversity impact components of the Environmental Assessment Package for WSI in accordance with the EPBC Act 1999. We are not told who "WSP" is and so do not know the credentials of this group.

WSP assessed the Airport Site and land uses "in the vicinity" with the intention of including the "whole landscape". There is no indication in this summary that WSP conducted a detailed investigation of the biodiversity of the GBMA and adjacent protected areas; there is one survey at The Rocks Lookout on the eastern boundary on the BMNP. This is a serious oversight given that:

- The closest boundaries of both Burragorang State Conservation Area and the Blue Mountains National Park (part of the GBMA) lie within 10 km of the WSI airfield, well within the 13 km wildlife buffer and 30 km flying-fox buffer.
- The EIS states that the GBMA contains 'pristine wilderness and is recognized for its outstanding level of biodiversity.' (5.2.1, page 38)

We disagree with the statement that "the proposed action will not breach or raise inconsistencies with any of Australia's obligations under the various biodiversity related international agreement to which it is a signatory". In this Technical paper, there has been little consideration of Australia's obligations under the UNESCO World Heritage Convention despite the Greater Blue Mountains Area's inscription on the World Heritage list in 2000. The fact that these obligations have been overlooked is a serious flaw in the draft EIS.

The failure of the Technical paper 5 (referred to in this paper) to give any actual details of mitigation or of any attempt to minimise impacts on biodiversity of the GBMA is a consequence of an absence of understanding because:

- The area's biodiversity needs were overlooked
- Impacts cannot be assessed (and hence, cannot be minimised or avoided) if there is an absence of relevant data.

It is noted in the Executive Summary that the flight path requirements of other airports (in particular, Kingsford Smith Airport (KSA)) put design constraints on WSI flight paths. Our recommendations include a redesign of the flight paths from and to KSA so that flight paths from and to WSI can avoid flying over GBMA at altitudes less than 31,000 ft.

Chapter 1 Introduction

This chapter states that the 'Key to design principles" is the impact on community, other airspace users, safety and capacity of Sydney Basin airspace. While we acknowledge the importance of these factors, there is no mention of preserving the Outstanding Universal Values (OUV) of the nearby world heritage property, despite a stated objective to "deliver sound … environmental outcomes…"(Chapter 1, 1.2.1 Objectives of the project). This failure from the outset has resulted in little consideration being given to the impact of the flight paths on the GBMA and other natural areas of the Blue Mountains. This absence of care could very well place the world heritage listing at risk.

The key objectives of the report are listed in Technical paper 8 (page 10) 1.3 and in Table 1.1 Biodiversity assessment requirements (EPBC 2022/9143).

Figs 1.3 – 1.7 show the flight paths for arrival and departures to and from WSI. This demonstrates the enormous impact that the flights departing and arriving will have particularly on the Burragorang SCA and protected areas in the lower GBMA (Kanangra-Boyd NP, Yerranderie SCA, and wilderness areas).

Table 1.1 – "Description of the environment" is inadequate. There is no acknowledgement nor description of the environment of protected areas (NPs, SCAs, recreational areas; Warragamba Special Area) that lie to the west of the airport. Hence, any assessment of impacts on these areas is overlooked. This includes the potential impact of excessive noise and of wildlife strike on birds or bats within the 13 km and 30 km wildlife buffers.

Chapter 2 Legislation

2.1.2 Impacts on Matters of National Environmental Significance (MNES)
Listed are the Significant impact guidelines 1.1 against which the MNES biodiversity entities must be reported.

The list seems comprehensive and includes as the last point: "biodiversity attributes contained within World Heritage Properties. The Significant Impact Guidelines 1.2 identifies that impacts on the GBMA WHP" biodiversity values be considered. This is an acknowledgement of the importance of the GBMA WHP which is not however, fulfilled in the EIS.

2.2 NSW legislation

2.2.1 Biodiversity Conservation Act 2016 (NSW)
Mentions the provision for certified airports in NSW to lethally control hazardous native wildlife by shooting for the purpose of aircraft hazard reduction (with a permit).

Chapter 3 Description of significance criteria
"Significant impact" is dependent on the sensitivity, value and quality of the factor being impacted, magnitude and geographic extent of the impact (Department of the Environment 2013). The Society submits that the GBMA is an extremely sensitive environment which will be impacted over a large geographic area on both sides of the Great Western Highway.

The process described in "Table 3.1 Severity assessment criteria for assessing impacts on biodiversity" submits that only "major" impacts are considered to have a significant impact. This includes "potential decline of a population or reduction in area occupancy such that it would affect a species status under the EPBC Act or International Agreements." This overlooks possible long-term impacts resulting from the loss of species (say birds or bats) from a location, for example in pollination of eucalypt flowers or spreading seeds by frugivorous bird species, including impacting the GBMA. It also demonstrates a lack of understanding of the value that non-threatened species have in ecosystems.

Chapter 4 Methodology

Biodiversity data collection and survey methodology.

There is an adequate description of the GBMA including the vegetation and geology provided in this Technical paper. It is described as part of the Sydney Basin Bioregion (Thackway and Creswell 1995). However, there is no description of the other adjacent protected areas, including Burragorang State Conservation Area and Yerranderie SCA which are not part of the World Heritage Area or Blue Mountains National Park (although they are currently under consideration for being added, as is recognised in Chapter 23 MNES). This may reflect an absence of quality data for these areas or a (flawed) assumption that they are of lesser importance. However, these two SCAs are covered in the Nattai Reserves Plans of Management 2001[20] which are available on the NSW Department of Planning and Environment's website. These natural areas are in very good condition currently and importantly, they contribute to maintaining the authenticity and integrity of the GBMA. Hence they should form a genuinely considered part of the EIS and proposed actions should be delayed until this data is collected and analysed for potential negative impacts.

4.3 Key report terminology

"Candidate species" – included only "threatened and/or migratory entities listed under the EPBC Act known to occur or likely to have suitable habitat and be impacted on by the project." (See Key Terminology page 22.) This overlooks numerous other species on the NSW Threatened species list even if they have been recorded in the National Park or adjacent SCAs within the 13km wildlife buffer or lie directly under a flight path at less than 3,000 ft.

It also ignores the fact that there are no "candidate species" to represent some species such as the Superb Lyrebird. Hence, the potential negative impacts on important iconic birds such as the lyrebird, (which was seriously affected by the 2019/2020 bushfires[21]) are not considered. These unburned areas of the GBMA are crucial habitat for such birds and any adverse impact from WSI will be cumulative and must be avoided.

4.4 Literature and database assessment

4.4.1 Desktop review

The desktop review aims to identify MNES biodiversity entities listed under the EPBC Act which need consideration. This included the GBMA.

The **Impact assessment approach** was conducted through:

- In person surveys (of a very limited nature – see comments later)
- A desktop review of databases (Chapter 4.4 Literature and database assessment 4.4.1 Desktop review). These included: EPBC Act Protected Matters Search Tool (PMST) and BioNet Atlas of NSW Wildlife. Each database was searched on three separate dates over 3 months in late 2022 and early 2023.
- Research papers (many not accessible to the general public)
- Spatial data (including vegetation, soils, geology, elevation, terrain)

4.4.2 Likelihood of occurrence

The threatened species identified via desktop review were used as "surrogates" for NSW threatened species. This may be a reasonable approach for some species, but it does mean that any non-threatened species who have unique requirements may be overlooked. For example, the bird taxa included in the tables as "candidate species" are skewed towards waterbirds and migratory waders. Birds occurring in the GBMA which are not threatened and which have unique needs (such as the Superb Lyrebird and Rock

[20] https://www.environment.nsw.gov.au/research-and-publications/publications-search/nattai-reserves-plan-of-management

[21] Hughes et al, 2023, Preferred nesting habit of the slow-breeding Superb Lyrebird is rare and was disproportionately impacted by Australia's Black Summer Megafires (2019-2020) within a World Heritage Area, Ornithological Applications, Volume 125, Issue 4, 6 November 2023. Available online: https://academic.oup.com/condor/article/125/4/duad027/7223212

Warbler) do not have their habitat needs considered under this model. These are just two of the birds whose habitat/noise requirements are neglected by the Draft EIS methodology.

Additional investigations were carried out on "candidate species" to analyse the extent and quality of the habitat, presence of breeding areas, movement corridors or flight paths, potential threats and regional context. Table 4.5 assesses the likelihood of occurrence of fauna within the assessment zone but again the draft EIS doesn't give details about how they determine if the habitat is suitable or marginal for a given species for any of the species' requirements.

4.5 Consultation
In relation to community feedback from the 2016 draft EIS and subsequent consultation, concerns raised are referred to Chapter 9, 9.3 Summary of issues raised and responses to feedback received.

Table 9.4 Summary of issues raised and where addressed in the 2023 Draft EIS.
It is appreciated that this table has been included as a gesture of accountability in acknowledging and addressing people's concerns as well as improving management and mitigation of potential negative impacts.

One item of relevance to the Society in this section is under the heading "Issue raised":

"Concern that flow-on impacts are not being taken into consideration. For example, the loss of flying-foxes will have ramifications for the entire ecosystem (e.g. pollination)." The response from WSI acknowledges that the risk of strike is a primary concern, but states that the strike numbers are likely to be low with minimal population impacts. The response given in the Table indicates the issue is addressed in "Technical Paper 5: Wildlife Strike". The response in Technical paper 5 is inadequate as there is still no discussion of the link between the flying-foxes and the health of the environment of the GBMA.

4.7.1.3 Other factors considered when determining the extent of impacts
The list of factors considered when determining the extent of the impacts on biodiversity were extensive. For records of sighting of species and locations, it is unfortunate that other databases which include records of wildlife were not also searched including (but not limited to) Birdata (Birdlife Australia database), ebird (International birdlife database), Atlas of Living Australia as these are all places where floral and faunal species are recorded and will include additional records that are not included on the two tools used in the ESI. Unfortunately, there is no one database in Australia that contains an up-to-date record of the occurrence of all our wildlife or flora.

4.6 Field Surveys
Only one in-person survey was completed in a protected area and this was at The Rock Lookout which lies 110m within the eastern boundary of the Blue Mountains National Park near Mulgoa. The entire remainder of GBMA and the adjacent State Conservation Areas, the closest of which lie within the 13 km wildlife buffer, is overlooked. Hence the baseline data for biodiversity in the protected areas and how these entities interact with species from beyond the protected areas, is absent; thus the impacts of the aircraft overflights on and species of wildlife cannot be assessed.

The in-person surveys were completed:

Airside

- Consisting of morning, midday, afternoon, evening **once** in July, August, September and October 2022. The survey consisted of seventeen single sites with one observational point per site; five minutes per site.
- Figure B.1 shows only 15 observation points (yellow dots). The observation points are limited to the area around the runway which is half the airside area (as determined by the Airside boundary shading).
- There is no reason given for not conducting surveys on the remainder of the airside area.

- This is a barely adequate survey.
    - Limitations: included is a statement that some species may have been missed or under-represented due to their behaviours and habitats.
    - Whilst this method may be suitable for trend analysis for some species, other species may be missed and this could be an issue if the species missed were threatened species or migratory waders.
    - There will be observer bias with any survey method which over- or under-estimates species. This should be acknowledged and minimised.

Off-airport surveys

- A **single survey** of 58 sites within a 13 km wildlife buffer and 15 sites within 30 km once in each of July, August, September and October 2022.
- During the survey, the observer recorded all wildlife seen and their behaviours as well as weather conditions.
- Important information about the survey procedures is missing.
    - There is no mention of the time an observer spent at each site. A single, five minute survey might be suitable for a very small area with a skilled observer but will be inadequate for a larger area particularly if it is densely vegetated.
    - Robust survey methodology would require several survey sites be included in a large area in various habitats occurring on the area, and these should be repeated at different times of day on several days over the course of the survey.
    - No mention of the time of day these surveys were performed. This is an important oversight, as the numbers and species of birds recorded in a survey area varies greatly depending on the time of day.
    - There were no night-time surveys mentioned so there is an absence of data on nocturnal species.
- FigB.2 – B.4 in Technical paper 5 Wildlife strike shows 43 survey points rather than the 58 stated in 3.1.2.2 page 17 Technical paper 8: Biodiversity.
- The draft EIS states that many properties could not be surveyed because of lack of access or because the property was too large and there was insufficient time. We are not informed what percentage of the survey, or area in hectares was covered.
- We are not aware of any information telling us which properties were surveyed or missed.
- Given these inadequacies, it is difficult to justify the comment that despite its limitations, the surveys were adequate.

No additional field surveys were completed for this report. The reason given in the draft EIS is that the biodiversity of the area is well-understood as it is next to an “urban area of greater Sydney” which has been “intensively” surveyed over decades. No details are provided as to whether this “baseline knowledge” drawn from these intensive surveys was accessed and how it was used by WSI, nor just where this information was collected in greater Sydney.

The distances to the closest point from the airstrip to the boundary of the GBMA and to Burragorang State Conservation Area is under 13 km so part of the wildlife buffer, and yet the only survey conducted in the protected areas was The Rock Lookout near Mulgoa. This is despite the Blue Mountains NP being part of the GBMA.

There are eight Flying -fox camps reported within the survey areas, but these were only surveyed on one occasion for the draft EIS. We have written further regarding our concerns for Flying -foxes under this draft EIS.

The surveys off the airport particularly those beyond 13 km, are inadequate to determine the species present that are likely to be impacted negatively by the aircraft overflights.

The World Heritage Committee states that when there is insufficient data to ensure that there will not be a negative impact, then the Precautionary Principle applies, and a decision can be made not to proceed with the action.

Chapter 5 Existing biodiversity values

5.1 Study area overview and context

The draft EIS has erroneously identified only the wildlife attractants identified within the 13 km buffer as potential risk contributors to the project. This ignores the research that demonstrates Grey-headed Flying-fox individuals will camp in suitable habitat on the Cumberland Plain but will fly up to 70 km each night to find suitable foraging habitat in the GBMA and other adjacent protected areas. To reach their foraging grounds, they will cross the airfield regularly exacerbating the risk of wildlife strike.[22]

5.2 Heritage properties and places

5.2.1 World Heritage properties. Our response to this topic has been provided elsewhere in this submission.

5.2.2 National Heritage Places

In this section and Fig 5.4a 'existing values within the wildlife buffer (05 runway – day)', there is an acknowledgement that the GBMA occurs within the wildlife buffer and flying-fox camps and buffers. This acknowledgement is welcome and at the same time raises questions as to why an assessment of the birds occurring in the GBMA and other protected areas lying within the wildlife buffers has been ignored in surveys.

5.4.2 Threatened fauna species

The draft EIS (section 5.4.2) acknowledges that the GBMA and other tracts of native vegetation are habitat for threatened species and includes 92 species and 79 migratory shorebirds. This data is sourced from Government websites. Of these, only 16 species are considered as "candidate species" and included in Table 5.6.

Chapter 7 Impact assessment, including design scenarios

7.2 Impact overview

Impacts listed include: Wildlife strike, noise, light spill, air quality, water quality, fuel jettisoning.

A simplistic, exaggerated assumption has been made including that the effects will be minor or negligible in severity and that wildlife will simply adapt to all disruptions that occur from this WSI project.

"Wildlife may be temporarily interrupted by the project but would likely become habituated and continue to use habitats in the assessment zones over time."

There is no data nor references given to support this assumption.

In Table 7.2 Impact summary, "Noise" impact is listed as simultaneously intermittent (stopping and starting at intervals) and continuous (uninterrupted in time). It cannot be both.

7.3 Direct impacts – Wildlife strike

The Society has further commented on this as part of the response to Technical paper 5: Wildlife Strike.

[22] McCarthy et al, 2022, Ground-based counting methods underestimate true numbers of a threatened colonial mammal: an evaluation using drone-based thermal surveys as a reference, CSIRO Publishing. Available online: https://www.publish.csiro.au/wr/Fulltext/WR21120

7.3.2 Flying-foxes

The Grey-headed Flying-fox[23] is listed as vulnerable at both state and federal levels. This species has also been added to the International Union for Conservation of Nature's (IUCN) "Red List of Threatened Species". They have been listed due to the ongoing decline in population which is likely due to substantial loss and degradation of foraging habitat, mass mortality from extreme heat, food shortages, entanglement in netting and increased exposure to anthropogenic threats in the urban environment. [24] It is therefore crucial that we do everything possible to minimise or eliminate the risk of flying-fox strike with aircraft as the threats impacting this species are cumulative.

Grey-headed Flying-foxes are also one of the key species in the GBMA for maintaining ecosystem processes and biodiversity as they forage widely on flowering eucalypt species in the world heritage area. Thus, they are afforded World Heritage value even when outside the world heritage property. This has not been acknowledged in the draft EIS.

The paucity of data about flying-foxes in and around the GBMA and WSI and lack of knowledge of their biology, habits and occurrences is particularly concerning and is a clear example of why there is insufficient data collected to determine the extent of impact of WSI on this species. The seven years between the previous 2016 EIS and October 2023 could have seen substantial data collected and analysed to assist mitigate wildlife strike involving Grey-headed Flying-foxes, with a view to both better conserving the species and reducing the risk to aircrew and passengers from a strike.

Understandably, the focus of the WSI draft EIS is on the risk to passengers and aircrew from wildlife strike with flying foxes. The Society also considers the risk to the individual flying fox and the species needs adequate consideration in an examination of the impact of WSI flight paths on biodiversity of GBMA.[25]

7.3.2 page 63 states:

- Flying-foxes are particularly susceptible to wildlife strike.
- The highest risk for flying-foxes is being struck whilst enroute to and from foraging sites
- About 96 per cent of flying-fox collisions occur below 1,000ft; most strikes occur below 500ft.
- Flying-foxes are reported to be the most struck faunal species group at Australian airports 2008-2017.
- Aircraft strike typically results in the death of the flying-fox.
- "Survey limitations (4 surveys over 4 months using human observation from static locations) means the use of WSI airspace by flying foxes cannot be excluded as flying-foxes . . . were observed in the fly-out surveys from the 8 flying-fox camps monitored in the study area."
- "The impacts of the project on the flying-fox behaviour, reproduction and nutritional status and the overall population is difficult to predict without long term baseline studies of movement and foraging ecology."
- The draft EIS assumes that the behaviour of flying-foxes in Western Sydney and surrounds will mimic those at Sydney airport (on the coast) and uses their data in the absence of rigorous scientific data from western Sydney.

The data found in the desktop survey is out-of-date, as there is a new camp (2019) at Silverdale about 10 km from the WSI and in the 13 km wildlife buffer zone. This camp does not appear in the draft EIS and will be a major source of strike risk. The Emu Plains camp has also moved to Emu Heights and so the animals

[23] NSW Office of Environment and Heritage, Grey-headed Flying-fox profile. Available online: https://threatenedspecies.bionet.nsw.gov.au/profile?id=10697

[24] International Union for Conservation of Nature (IUCN), 2024, Red List of Threatened Species, Grey-headed Flying Fox. Available online: https://www.iucnredlist.org/species/18751/22085511

[25] McCarthy et al, 2022, Ground-based counting methods underestimate true numbers of a threatened colonial mammal: an evaluation using drone-based thermal surveys as a reference, CSIRO Publishing. Available online: https://www.publish.csiro.au/wr/Fulltext/WR21120

[25] Welbergin, J, 2024, pers. comm. 22 January 2024

present here need to be considered as well in the strike risk. These two camps currently present the highest strike risk for WSI.[26]

There is an absence of behavioural data also from the draft EIS. Research shows that the Grey-headed Flying-fox is highly mobile; individuals and groups will move all the time in a random fashion across the landscape. Camps will wax and wane in size over time and a new camp can establish quickly. These are difficult to predict and difficult to capture using in-person surveys.

Grey-headed Flying-foxes feed predominantly on flowering eucalypts and respond to the seven-year mass eucalypt flowering events that occur in the Blue Mountains and GBMA. Tracking of individual flying-foxes show that although the mean foraging distance is 10-12km, individuals can travel up to 70km one-way to find food. They can also fly large distances to find a new camp and yet, there is little understanding of when they will do this.

The Information provided in this paper gives no indication about how the flying-fox numbers were counted by the observer, but it is assumed that was a fly-out count. These counts are inaccurate and known to substantially underestimate the numbers in the camp.[27]

WSI has acknowledged in the draft EIS that the surveys and the data collected is inadequate to make a valid assessment of the impact of the flight paths on these species, which include the threatened Grey-headed Flying-fox. It is highly likely that the COVID pandemic and the lockdown rules imposed meant that performing surveys was not possible for a couple of years. This may have contributed to the inaccuracies in identifying the location of some camps in western Sydney.

The technical report mentions 'managing' the risk from flying-foxes, but it is not possible to "manage" this risk. As a protected species under the EPBC Act, they cannot be dispersed without permission from the Federal Environment Minister. Dispersal of camps is difficult and rarely successful in the long-term.

The use of newer technological methods can immensely improve the accuracy of recording flying–fox camps, their location and number of individuals, and the behaviour of individual animals. This data allows for a 3-dimensional map to be drawn of their flight paths, which can predict behaviour of the flying-foxes as they cross the flight path, so flight paths can be adjusted accordingly to avoid strike.

Given the absence of quality data about flying-foxes that will be impacted by the airport, the decision to approve the 2023 draft EIS flight paths should be deferred, awaiting additional high-quality information, or the proposed action (i.e. flight paths) should be redesigned to minimise the risk of collision with this species.

7.4.1 Aircraft Noise

See also the Society's response in Technical Paper 5.

Location of sound measurements.

It noted that there was no location in the GBMA at which sound was measured in natural bushland away from residential areas.

The closest were recordings taken at Lake Burragorang, 57 Burragorang Road, Nattai and Linden. Both showed a low night-time recording of 43dB(A)LAmax at Linden and 44dB(A)LAmax at Lake Burragorang. Since there are houses and roads nearby to both these recording locations, it is to be expected that the level of night-time sound in remote bushland is much lower at night, and that remote bushland daytime

[27] McCarthy et al, 2022, Ground-based counting methods underestimate true numbers of a threatened colonial mammal: an evaluation using drone-based thermal surveys as a reference, CSIRO Publishing. Available online: https://www.publish.csiro.au/wr/Fulltext/WR21120

noise levels are lower than urban recordings as well. Hence, natural areas are not starting with as high a level of ambient noise as are urban areas except during noisy natural events such as windy days, storms or heavy rain. Interestingly, anecdotal evidence shows that birds call less during these natural events.

The impact of flights over Burragorang State Conservation Area at less than 3,000ft and noise level up to 75dB(A)LAmax is excessive. It is stated (page 66) that the level of noise that elicits annoyance in both human and terrestrial wildlife is between 40-100 dB(A). However, the effects on wildlife that are concerning are more serious than just annoyance.

It is frequently referenced that some bird species may call more loudly in response to anthropomorphic noise. There is a limit to how well a bird can do this – and it will vary for different species of birds, the size of the bird, the level of the noise, the type of noise and the frequency of the noise. If the noise is of lower frequency, the male may adjust the pitch of his call yet some studies show females do not respond as well to these male's higher frequency songs. If a male needs to call more loudly, this may take more energy and the bird may then need to spend more time foraging leaving less time for other breeding activities.

Although it is highly likely that many birds or species will be less affected or adapt to the noise, it is not assured that populations will thrive over time. And this is a concern as the cumulative effect on species from climate change, bushfires, inappropriate development and anthropomorphic noise all begin to take their toll. The situation will be worse close to the airport and the WSI should provide funds for ongoing research into the affects of the flight paths on biodiversity of these close natural areas, so that detrimental impacts can be detected and mitigated early.

7.7 Bushfire impacts
Potential effects on Lyrebirds (mentioned earlier).
7.8.2 Air crashes and risk of bushfire is dismissed.
7.8.6 The cumulative effects of ongoing negative impacts on the GBMA from all sources including bushfire, is dismissed.

Chapter 8 Cumulative impacts
There is an acknowledgement of cumulative impacts on the GBMA now and into the future, but no awareness shown of Australia's obligations under World Heritage or the Wilderness Act.

As noted in 7.8.6, the cumulative effects of ongoing negative impacts on the GBMA from all sources including bushfire, is dismissed.

Cumulative impacts are further discussed in our response to Technical paper 14.

Chapter 9 Significant impact assessments
9.2 see response to Technical paper 14 for impacts to other attributes associated with GBMA.

Chapter 10 Management and mitigation measures
10.1 Avoid and minimise
This is inadequate as there is insufficient data collected and analysed on biodiversity and faunal behaviour on which to rigorously assess the impact and hence lack of ability to minimize or avoid.

In this Technical paper, it is acknowledged that not all potential impacts associated with the project could be reasonably avoided or minimised. However, the lack of robust research has not provided a baseline for WSI to even attempt adequate minimisation or mitigation.

10.2 Project specific mitigation measures
10.2.1 Existing management
10.2.2 Dependencies and interactions with other mitigation measures
We have detailed our concerns to both these elsewhere in our submission.

10.3 Biodiversity offsets

In this discussion of offsets, WSI fails to mention the UNESCO World Heritage requirements that: "...in the case of World Heritage, OUV is irreplaceable and cannot be 'offset'. The best outcome for World Heritage is to avoid negative impacts entirely – this includes the dismissal of the proposed action, or its relocation away from the World Heritage property."[28]

Chapter 11 Conclusion

In their conclusion, WSI have stated that the impacts are unlikely to have any adverse effect on biodiversity or ecosystems. We disagree with this very simplistic view which is not supported by data. Failure to collect data which might show an ongoing negative impact does not mean that no negative impacts will exist.

WSI have also failed to realise how the impacts from the airport are cumulative, adding to the ongoing development related to the airport. These include: past impacts when WSI was being built, future impacts when operations start in 2026, increasing impacts up to 2055 and beyond. These impacts are not restricted to flights and impacts along flight paths although this increasing air traffic will severely impact the GBMA. The impacts also include all the additional land transport and its pollution, increase in population, tourist facilities and tourists themselves, increased fuel used and fumes released from aircraft, increasing risk of wildlife strike and negative impacts on the wildlife particularly in those areas within the wildlife buffers up to 30 km into GBMA, additional loss of wilderness values.

WSI claim they will not breach any of Australia's obligations under international agreements, but that is clearly incorrect.

The mitigation measures referred to in Technical paper 5 have no detail about any mitigation. They are simply a "plan to make a plan".

<u>Recommendations</u>

1. Before the final flight paths can be approved, an adequate baseline level of data for the GBMA and adjacent protected areas needs to be collected in line with requirements of the World Heritage committee's recommendations in their Guidelines and Toolkit for impact assessments in a World Heritage Context (referred to earlier). This will allow for a rigorous assessment of any potential negative impacts to be conducted and a decision made as to whether these impacts can be reduced to an acceptable level. If they cannot, then the action should not go ahead.

2. The ambient noise level in the remote bushland areas of the GBMA should be measured to provide accurate baseline data. This data will then inform the EIS as to the likely degree of negative impact on wildlife, and what an acceptable increase in noise level might be. Other relevant acoustic characteristics of the noise (such as the frequency, duration) should also be collected and used in determining potential negative impact.

3. Survey methodology needs to be improved to collect reliable and rigorous data. This will include the number of surveys, number and location of survey points, number of observers, time and duration of surveys, collection of weather data over different seasons and over at least two years.

4. For Grey-headed Flying-foxes, an improved surveying methodology should be investigated using up-to-date technology to collect data on the numbers and behaviours of this species. Given that this species is at high risk of wildlife strike, and that this impacts the safety of aircrew and passengers, this is an urgent imperative.

[28] UNESCO World Heritage Convention, 2022, Guidance and Toolkit for Impact Assessments in a World Heritage Context. Available online: https://whc.unesco.org/en/guidance-toolkit-impact-assessments/

5. Management and mitigation actions to minimise negative impacts need to be devised and provided to the general public for comment prior to the flight paths being approved.

All the above shortcomings need to be addressed to ensure an appropriate and valid assessment of environmental impacts.

7. Technical paper 14: Greater Blue Mountains Area (GBMA)

Introduction

The Society's mission is to help protect, conserve and advocate for the natural environment of the Greater Blue Mountains. The Society's work focusses on the world heritage-listed Greater Blue Mountains Area which is over one million hectares. As stated at the beginning of this submission, this area is referred to by the acronym, GBMA, as it is in the draft EIS. This area contains extensive declared wilderness areas which make up 65 per cent of the world heritage listed area.

Our submission focusses on the impacts of aircraft noise on wildlife generally and on people enjoying the natural environment of the Blue Mountains within GBMA and adjacent bushland areas.

Overall Comments

- Noise levels from aircraft over GBMA will be intermittent but very loud for a bushland area which is largely quiet. However, the draft EIS does not address the suitability of such noise levels on protected natural environments especially declared wilderness, which has legislated additional requirements. [For more detail see Noise Impacts section of this submission]
- The draft EIS lacks information on how the impacts of artificial noise impacts can be assessed or interpreted.
- This will significantly impact native fauna and hence the outstanding universal value (OUV); however, as pointed out earlier, the draft EIS does not address the known impacts on wildlife especially noise. [See comments on Noise TP 14 above, TP 5 and TP 8]
- Visual impacts of flying planes will intrude into and degrade the many views of people (residents, visitors or recreationists) who are enjoying GBMA's natural environment or the nearby bushland areas. These impacts will be visible from the many nature-based tourism/visitor sites.
- The Society agrees that the vegetated bushland in the wider area around the Greater Blue Mountains Area (GBMA) plays an important protective role; however, the role and management of these lands is conflated as there are different management regimes which deliver differing degrees of protection to the GBMA. Also, there is no stated recognition that this surrounding area is incomplete with many other uses and management in the surrounding area.
- Declared wilderness has not been discussed and assessed as a separate category of land within the GBMA despite recognising its importance to the OUV of the GBMA. Declared wilderness must meet the legal standard of providing "opportunities for solitude and self-reliant recreation."[29] However, the impacts of WSI may prevent this. The draft EIS should have assessed these substantial wilderness lands (65 per cent of the GBMA) as a distinct category.
- Location of the WSI airport would directly impact on the GBM area because it is likely to lead to more tourism infrastructure, recreational activities infrastructure, enlargement of existing facilities on-park and introduction of new ones, and pressure for accommodation on park in GBMA. There has been a trend in NSW and across Australia for introducing more tourism infrastructure into the national park estate as visitor number rise. This is not consistent with the model of GBMA where facilities are overwhelmingly located outside but nearby national parks.
- The Society disagrees that the location of the airport will bring benefits which will negate the impacts of overflights as the draft EIS claims. TP 14 fails to identify the significant pressures of the WSI flight paths which are likely to lead to more development within the GBMA.
- As well, the draft EIS's argument that the location of the airport will positively benefit the area is irrelevant to the EIS's assessment as it assesses flight paths not the location of the actual airport which has already been assessed and decided.

[29] Wilderness Act 1987. No 196. Available online: https://legislation.nsw.gov.au/view/whole/pdf/inforce/2024-01-27/act-1987-196

- The consequences of damage to Aboriginal sites and rock platforms from increased visitors are underplayed.
- The draft EIS fails to recognise the implications of cultural landscape in indigenous heritage. This concept requires the whole landscapes to be assessed rather than just designated locations or places.

Detailed Comments

See also the Society's response on Technical Papers 1,3,7,8

Chapter 3 - Project Setting

Wider setting of GBM 3.2.1.1 (p.16)
The draft EIS recognises that the wider setting of a world heritage area "contributes to the significance and distinctive character" of the world heritage area and that this wider setting can play an "essential role in protecting the authenticity and integrity of the property" thus supporting the OUV."[30] The draft EIS also acknowledges that GBMA has no formal buffer area. This limits the effectiveness of the surrounding area. World heritage properties have been required to have buffer zones before nomination since GBMA was listed in 2001. Successive federal governments have not done this.

The GBMA wider setting contains different categories of reserves (national park, state conservation area), some of which adjoin the actual GBMA boundary, and ten state forests. It is agreed that these "protected areas" assist in maintaining the overall natural setting of the GBMA property thereby reducing pressure from other adjoining land uses which may cause negative impacts on the OUV. However, this ignores the limitations and, at times, significant failures of these areas to be protective. For instance, the level of "protection" that a state forest can provide to natural bushland is very different from what a national park provides. The proposed WSI flight paths add new significant impacts on top of the stressors already on these surrounding reserves and state forests. Cumulative impacts need to be considered more rigorously. Further comments on the wider setting are below.

The Strategic Plan for the GBMA paints a different or more complete picture of the surrounding area. It also acknowledges that a very large number of freehold properties including areas of significant urban development regulated by 12 different local government areas"[31] and that "tourism facilities, grazing, forestry, agriculture, manufacturing and mining" operate adjacent or nearby.

Potential threats include "inappropriate recreation and tourism activities including the development of tourism infrastructure, under the increasing visitor pressure from Australian, overseas and commercial ventures. Other threats include threats from tourism development "properties adjoining the GBMA with prominent vantage points which are highly valued and under pressure for residential and tourism development."[32]

[30] Technical paper 14 refers to the statement that "Every World Heritage property is surrounded by a wider setting, which is the immediate and extended environment that is part of, or contributes to, its significance and distinctive character. The wider setting *can also play an essential role in protecting* the authenticity and integrity of the property, and its management is related to its role in supporting the Outstanding Universal Value of a site."
[31] NSW Government Department of Planning and Environment, Greater Blue Mountains World Heritage Area Strategic Plan Page 20. Available online: https://www.environment.nsw.gov.au/research-and-publications/publications-search/greater-blue-mountains-world-heritage-area-strategic-plan (Strategic Plan)
[32] NSW Government Department of Planning and Environment, Greater Blue Mountains World Heritage Area Strategic Plan, 2009, Page 23. Available online: https://www.environment.nsw.gov.au/research-and-publications/publications-search/greater-blue-mountains-world-heritage-area-strategic-plan

3.2.2. Proposed National Heritage Area extensions

The Society supports the additional natural areas and reserves which the Australian Heritage Council is currently assessing for National Heritage listing. This will provide additional protection under the EPBC Act but it will to too late for this assessment. The GBMA Advisory Committee recommended this in 2015.[33]

3.3.2 Statement of Integrity

It notes boundary anomalies which reduce effectiveness of its one-million-hectare size but states that much of the GBMA is "largely protected by adjoining public lands of state forests and state conservation areas". It then mixes up land already within the GBMA but protected by an additional regime (declared wilderness) and designated water catchment areas which are within and outside of the GBMA.

It also notes that the current statement of integrity is out of date (2016) because of the recommitment of federal government to proceed with the second Sydney airport. The World Heritage Committee (UNESCO) has previously expressed serious concerns about the earlier proposed second Sydney airport.

Significance of Integrity

"Integrity is a measure of the wholeness and intactness of the natural heritage of the Greater Blue Mountains." The Greater Blue Mountains World Heritage Area (GBMWHA) Strategic Plan states '… to maintain, and wherever possible improve, the current and future integrity of the GBMWHA …', it recommends seeking 'to ensure that adjoining land uses are sympathetic to the conservation and presentation of World Heritage values'." The Strategic Plan also states that "complementary management of adjacent lands is critical…"[34] This makes the capacity of the various surrounding bushland areas a very important factor in relation to the EIS.

The GBMA has long been recognised as providing a beautiful natural environment as a relief from the nearby city of Sydney. The strategic plan contains a list of national park estate and state forests areas, recommended by the government appointed GBMA Advisory Committee which would be a "buffer" to the WHA.[35]

The Statement of Integrity section states:

> "In addition, much of the Greater Blue Mountains Area is largely protected by adjoining public lands of State Forests and State Conservation Areas. Additional regulatory mechanisms, such as the statutory wilderness designation of 65 per cent of the area, the closed and protected catchment for the Warragamba Dam and additions to the conservation reserves that comprise the area further protect the integrity of the Greater Blue Mountains Area."

However, the paper has not drilled down into these other protections to assess their efficacy in providing a buffer and protective layer. Although these are largely naturally vegetated lands, their management regimes are varied and some have proved to be inadequate to this task at times with a detrimental impact on their natural values. This is relevant for the consideration of cumulative impacts of the proposed WSI flight paths. Comments on the effectiveness of these categories are below.

(i) Adjoining public lands – state forests

State forests are created for forestry activities. Logging in state forests is permitted unless the land is a declared flora reserve. Mining is also permitted in state forests except in flora reserves and it has caused permanent damage to these areas including ongoing pollution from active and closed mines. For instance, the state forest public lands of Newnes Plateau, Ben Bullen and Wolgan have been damaged and neglected by uncontrolled recreation uses such as 4WD, trail bikes, illegal trail-making.

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[33] Benson and Smith, 2015, *Chapter 2 Protecting biodiversity values in response to long-term impacts: additional areas recommended for inclusion in the Greater Blue Mountains World Heritage Area*, in "Values for a New Generation: Greater Blue Mountains World Heritage Area."

[34] Strategic Plan Pages 20 and 25.

[35] Strategic Plan Page 4.

It is good news for the GBMA that since May 2022 (and not mentioned in the EIS) most of three adjoining state forests (Newnes, Wolgan and Ben Bullen) have been declared state conservation areas under the *National Parks and Wildlife Act (NSW) 1974*. The NSW government has recently committed several million dollars to clean up and rehabilitate the area and protect it from destructive recreation activities allowed when they were state forests. "The Gardens of Stone State Conservation Area protects exceptional conservation values and has been a longstanding priority for addition to the national parks estate."[36]

The main colliery owner, Centennial Coal, has also had to pay at least $24m as legal offsets for permanent damage done to nationally listed swamps. Rehabilitation is now planned for these areas. Mining delayed the transfer of these lands into the national park estate for decades despite the area long being identified as worthy of this status.

The pit top of Centennial Coal's Clarence Colliery is located just outside of the western boundary of the GBMA and operates beneath the former Newnes State Forest. In 2017 a collapse of a mining fines stockpile at Clarence colliery, just outside the GBMA, led to a total of 2,331 tonnes of material escaping the mine emplacement area and into the GBMA below. More than 200 tonnes of coal material had to be cleaned up from the Wollangambe River. The NSW Land and Environment Court convicted Clarence Colliery and fined the company $1,050,000 - the single largest fine following prosecution by the EPA.[37]

(ii) Adjoining (or nearby) public lands – State Conservation Areas

State conservation areas are the only form of reserve in the NSW national park estate which allow mining. This is understood to mean only underground mining. This has led to legal discharge of polluted mining water and subsidence causing cracking, loss of streams, swamps and waterfalls and loss of habitat. These SCAs are currently being assessed for National Heritage listing by the Australian Heritage Commission. Mining underneath the former state forests now in Gardens of Stone State Conservation Area continue to operate legally.

(iii) Areas covered by the additional regulatory mechanism of statutory wilderness dedication – Wilderness Act NSW

As noted, declared wilderness applies to 65 per cent of the GBMA. This is a significant protective value and significant to the OUV. The GBMA Strategic Plan states that:

> " The wilderness quality of the Greater Blue Mountains World Heritage Area (GBMWHA) makes a significant contribution to its outstanding universal value and has historically ensured the integrity of the property.[38]
>
> and that:
>
> "The wilderness condition and integrity of many of the key areas in the GBMWHA were greatly influential in the success of its nomination for the World Heritage listing."[39]
> Further, the Strategic Plan identifies the management response is to 'maintain and enhance the wilderness and wild river quality and values of the GBMWHA through formal declaration and appropriate management programs'. [40]

[36] NSW National Parks and Wildlife Service (NPWS), 2024, Gardens of Stone State Conservation Area. Available online: www.nationalparks.nsw.gov.au/visit-a-park/parks/gardens-of-stone-state-conservation-area

[37] NSW EPA, 2017, Coal spill into World Heritage Area costs Clarence Colliery more than $3 million. Available online: https://www.epa.nsw.gov.au/newsletters/epa-connect-newsletter/spring-october-2017/coal-spill-into-world-heritage-area-costs-clarence-colliery-more-than-3-million

[38] Strategic plan p. 25

[39] Strategic plan p15

[40] Area Strategic Plan, 25-26. P 27

The management of that wilderness area is governed by the *Wilderness Act*. The EIS does not refer to this legislation in the Statutory Context (Chapter 5: Statutory Context page 5-5).

As this submission has pointed out in relation to the landscape and visual amenity values, wilderness is a higher level of protection administered through NSW legislation than natural areas within the national park estate. It has legal status and implies a higher level of protection from and sensitivity to intrusion.

Table 3.2 Key sensitive and recreational areas, viewing locations and accessibility
Each national park containing declared wilderness is nominated as a key sensitive area. However, the declared wilderness in each of these areas should together be designated as a sensitive area as they are legally required to have more protection and must meet specific management principles. They are also not small areas (totalling 65 per cent of over one million hectares). This needs to be assessed in its own right for the impacts of the proposed flight paths. These areas are recognised as playing an important role in integrity of the GBMA. However, a quiet area will find overflights have even more impact than a noisy area because of the contrast. As observed earlier, baseline data of the current noise in GBMA have not been gatheres and assessed.

"Wilderness areas are large, natural and mostly intact areas of land that form part of our national park system. Wilderness areas are an essential part of our national park system. These large well-connected areas protect our existing biodiversity in a functioning natural system. Wilderness areas have cultural significance as they often contain Aboriginal sites … they provide clean air and water, store carbon, mitigate the effects of climate change on biodiversity … and provide places of inspiration that offer solitude, spiritual significance as well as opportunities for self-reliant recreation activities. Many wilderness areas are remote and inaccessible to vehicles and access is usually only by foot." These values of natural quiet and solitude are incompatible with flight paths and increased 24-hour artificial aircraft noise.[41]

Warragamba Dam closed and protected catchment – Sydney's drinking water catchment
These designated special areas are mostly outside but adjacent to the GBMA. Their natural values have been protected by largely being closed to public access. However, mining operators have legally discharged polluted mine water into this area and legally mined underneath parts for decades. The Sydney Drinking Water catchment waters are again in danger from a new proposal by Centennial Coal's Springvale colliery to discharge temporarily discharge untreated mine water into the catchment via Wangcol Creek and Coxs River.[42] Springvale mine lies beneath the former Newnes State Forest (now Gardens of Stone SCA).

(iv) **Additions to conservation reserves in the GBM area**
Since the WHA listing of GBMA in 2001, approximately 40,000 additional hectares have been added to the eight GBMWHA reserves. While these areas are already managed as national parks, successive governments have not sought the administrative amendment needed for the WHA listing to be extended to them. Environmental groups have asked the National Heritage assessment to include this issue.

Figure 3.3 three pillars of OUV
The second pillar is shown as Integrity and Authenticity, however, the EIS does not discuss "authenticity".

5. identification and evaluation of impacts
Table 5.1 Operational impacts on other important values of the GBMA

Comments in Table 5.1 on the threat of "Inappropriate recreation and tourism activities, including development of tourism infrastructure"

[41] NSW National Parks and Wildlife Service (NPWS), 2024, Wilderness. Available online: https://www.nationalparks.nsw.gov.au/conservation-and-heritage/wilderness
[42] NSW Government, NSW Planning Portal, Major Projects. Available online: https://www.planningportal.nsw.gov.au/major-projects

"The proposed flight paths are an integral part of the development of WSI, ensuring that the benefits of the airport are realised. The tourism industry is recognised as an important part of the regional economy with sites adjacent to, and for some aspects within, the GBMA, noting that around 3.8 million domestic visitors access the region in the 12 months to December 2022 (Destination NSW, 2022). Bushwalking/rainforest walks and visiting National Parks/State Parks were two of the top five activities identified by visitors to the Blue Mountains during this time." Blue Mountains National Park (in GBMA) is already the most visited national park in Australia.

The EIS states that while the new airport will increase the already high tourism numbers because it is closer to GBMA, "…on their own, the operation of the project would not directly contribute to inappropriate development or uncontrolled visitor access. The project would not result in any the development of any new physical tourism infrastructure within, or which may result in any indirect impacts on, the GBMA or its values. Developmental controls within the context of existing management plans and local and State government planning controls are currently in place and would remain to protect the World Heritage Area."[43]

The Society disagrees that the increased tourism would not lead to "inappropriate development" or any "new physical tourism infrastructure …within the GBM area". If the location of the airport leads to more tourists, this will put more pressure on landowners in and outside GBMA to undertake more developments. This trend is already evident in national park reserves in NSW and Australia and is an identified threat in the Strategic Plan, as mentioned above. The Strategic Plan identifies actions to better manage the various types of surrounding lands and to institute complementary management of private and public lands. [44]

5.3 Identification of potential project impacts - 5.3.1.2 Direct impacts - air crashes
The table states that air crashes, though "very unlikely" could occur and that impacts would largely be localised. It does concede that "In the event of a bush fire or chemical spill, impacts could potentially spread and affect a somewhat larger area "and impacts could lead to "rescue and / or clean-up activities". However, experience shows that, depending on weather conditions and the state of the bushland (such as moisture in soil) at the time, a fire can be extensive particularly in remote bushland areas like the GBMA. Clean-up activities could involve larger impacts, for instance when bulldozing roads. This could also damage or destroy aboriginal art sites on rock platforms or caves.

Wildlife strike has been discussed earlier elsewhere in this submission.

Table 5.2 Impact identification and assessment matrix on GBMA biodiversity values
Noise impacts on GBMA. As pointed out earlier, the draft EIS is deficient on this important issue. No noise sensitive receivers have been identified within the GBMA so the impacts are unknown. Modelling of the noise levels in TP1 of EIS show frequency of flights and noise levels which are inappropriately high for the GBMA, its constituent wilderness areas and adjacent bushland. Impacts are expected to be higher in the lower Blue Mountains closer to WSI. Low flying aircraft (and accompanying high noise level) is expected on various scenarios departing or arriving at WSI over adjacent natural areas particularly Burragorang SCA. Noise levels would be possible up to and over 75dB(A).

Ambient noise is low in wilderness areas and expectations are that it will remain that way, particularly given that 65 per cent of GBMA is declared wilderness.

Intrusive and inappropriate visual and landscape impacts on GBMA have been discussed earlier in this submission.

Given the importance of the declared wilderness for the integrity of the OUV, as stated above these declared wilderness areas in the GBMA should be assessed as a separate category. They should be defined

[43] Technical paper 14 page 58
[44] Strategic Plan, Pages 25-26.

as “sensitive receivers”. This is a major omission as can be seen clearly on Table 5.13 and despite the EIS showing flight paths over wilderness areas.

5.3.2.4 Heritage - Known aboriginal heritage and values
While the draft EIS recognises aboriginal sites and all designated aboriginal places, the further element of ‘cultural landscape’ only gets one mention. Cultural landscape is now included in National Heritage assessment.

The decision makers for the WSI flight paths EIS need to be aware of and consider this concept. For example, the local traditional owner organisations have set out the case for protecting the cultural landscape of the Burragorang Valley to both NSW and Commonwealth governments through an Aboriginal Place application under the NPW Act and an application under the *Aboriginal and Torres Strait Islands Heritage Protection Act* 1984.[45] Their applications were in relation to the proposed Warragamba Dam wall raising which is now not proceeding.

5.3.2.4
The EIS mentions potential damage and disruption of the indigenous art and land-sky connection. The Society supports this view.

5.3.2.5 Social and economic
The draft EIS refers to increased tourism as an economic benefit to region which counterbalances impacts. However, as discussed above, the experience of tourism and its impacts on natural environment show that it is not necessarily a positive outcome. Over time it could lead to more pressure for development on the national park reserves. “Increased inappropriate recreation and tourism activities including the development of tourism infrastructure under the increasing pressure from Australian, overseas and commercial ventures” is one of the six major threats to GBMA identified in the GBMA Strategic Plan in 2009.[46]

There is already renewed pressure from developers and tourism operators to have more access to national parks for accommodation and tours, where traditionally this has been supplied by neighbouring towns. It will degrade the World Heritage experience over time and the enjoyment and solitude within the extensive declared wilderness areas. Further, increased tourism also brings larger tourist operations which “capture” many tourists to maximise profits and prevents or decreases financial and social benefits to local economy and businesses. The issue is more complex and inter-related than the throw away, unsubstantiated statement below:

“The location of an international airport closer to the GBMA could provide a boost to the tourists within the area outweighing the potential impact of the flight paths. As planes fly over such a distinct and unique area of Australia, tourists will be able to gain an appreciation over the area and could choose to stay in the area for longer. The flights that will use WSI could bring more people into Western Sydney who may have always flown into Sydney (Kingsford Smith) Airport and therefore not been close enough to the area for a visit” (page 105).

As well, since the increased tourism is described as coming from the actual location of the airport where passengers disembark and not from the location of the flight paths, an impact from the airport location is arguably irrelevant to the current assessment of the flight paths.

Aboriginal cultural sites are also at great risk from future increased tourism. The Red Hands Caves aboriginal site at Glenbrook is today protected from visitor damage under a heavy grill. Forty years ago,

[45] Aboriginal and Torres Strait Islander Heritage Protection Act 1984. Available online: https://www.dcceew.gov.au/parks-heritage/heritage/publications/atsihp-act-guide-and-application-form
[46] Strategic Plan, 2009, Page 23

visitors to Red Hands cave could see the artwork without any intervening protection. Sadly, this fate probably awaits other aboriginal sites in GBMA.

Section 6 Management and mitigation measures – 6.3
6.3 Proposals for the WHA impacts are basically monitoring, research and consultation which is inadequate to protection of GBM Area and will not commence until assessment is complete.

Recommendations

The serious shortcomings of the draft EIS in relation to noise, landscape and visual amenity in earlier sections of this submission, together with comments in this section demonstrate that the draft EIS is an inadequate assessment of the significant impacts this proposal will have on the GBMA. The draft EIS should be withdrawn and a thorough assessment conducted. The best way ahead would be for the Environment Minister to revoke the decision to assess the proposed flight paths for WSI by an EIS and declare that the assessment is done through a public inquiry under *the EPBC Act*.

The declared wilderness in each of these areas should themselves be designated as a GBMA sensitive area as they are legally required to have more protection and must meet specific management principles. They constitute over half of the GBMA area (65 per cent).

Cumulative impacts on GBMA and the surrounding natural areas must be assessed including the new significant impacts on GBMA from the WSI flight paths proposal.

8. Chapter 23 Matter of National Environmental Significance (MNES)

Introduction

Many aspects of this chapter have been raised in the Society's submissions on other Chapters and Technical papers. We have referred to those in our response to this paper.

Overview

The primary focus on the consideration of Matters of National Environmental Significance is in relation to impacts on GBMA World Heritage and National Heritage.

This chapter describes the existing environment in considerable detail, with an acknowledgement that "At its closest point, the GBMA is around 7km from WSI. (page 23-1)" It fails to acknowledge however, that these parts of GBMA are within the 13 km wildlife buffer or the 30 km buffer for flying-fox camps.

The **World Heritage Outstanding Universal Values criterion** that related to GBMA (Criterion ix and x) are listed. The overview states that direct impacts would primarily be the potential for wildlife strikes to species utilising the GBMA habitats. This has implications for the Grey-headed Flying-fox which is known to forage on the mass flowering eucalypt events in GBMA [47]. However, there was no data on monitoring of this species within the GBMA presented in this EIS. This issue is discussed further in Technical Papers 5 and 8.

The Statement of integrity of the GBMA lists qualities and protection (page 23-2). The EIS concludes that the proposed flight paths would not result in any elements that would impact OUV, and that the project is unlikely to have a significant impact on biodiversity values or Aboriginal cultural values. In support of this statement, the draft EIS has claimed there will be no direct physical impacts such as reduction in size of the GBMA, impact on geological or water systems.

The Society disagrees with this assessment. We cannot find sufficient recent survey data on biodiversity of GBMA, particularly on wildlife, to support this view.

Additionally, the Burragorang State Conservation Area, which lies adjacent to the GBMA and less than 10 km from the airfield within the 13 km wildlife buffer, is known to provide habitat for the EPBC listed endangered Koala[48], the endangered Spotted-tailed Quoll[49] and the Powerful Owl (listed as vulnerable under NSW legislation[50]). Yet no wildlife surveys nor noise monitoring were performed in this SCA which will be subjected to many flights, some under 2,500 ft and up to 75d(B)A over a 24-hour period.

Additionally, the potential impacts of overflights on the wild rivers and water in Lake Burragorang have been dismissed as unlikely. The ambient noise levels used to represent the wilderness and other natural areas is inappropriate and not based on any actual measurements for these areas. The spoiling of pristine views by overflights has been underestimated and dismissed.

[47] McCarthy et al, 2022, Ground-based counting methods underestimate true numbers of a threatened colonial mammal: an evaluation using drone-based thermal surveys as a reference, CSIRO Publishing. Available online: https://www.publish.csiro.au/wr/Fulltext/WR21120

[48] Australian Government Department of Climate Change, Energy, the Environment and Water, 2023, Koala listing under national environmental law. Available online: https://www.dcceew.gov.au/environment/biodiversity/threatened/species/koalas/listing-under-national-environmental-law

[49] Australian Government Department of Climate Change, Energy, the Environment and Water, 2021, Dasyurus maculatus maculatus (Spot-tailed Quoll, Spotted-tailed Quoll, Tiger Quoll) Available online: https://www.dcceew.gov.au/environment/biodiversity/threatened/assessments/dasyurus-maculatus

[50] NSW Government Office of Environment and Heritage, Threatened Biodiversity profile search. Available online: https://threatenedspecies.bionet.nsw.gov.au

23.2.2 Assessment of impacts

Despite stating that the assessment of the GBMA reflects the guidance of the UNESCO 2022 document, the Society contends that it has failed to do so.

Our discussion on these matters can be found in our responses to Technical paper 1; Technical paper 5; Chapter 16 and Technical paper 8; Technical paper 14.

9. Overall Recommendations

These recommendations on the Draft EIS are a summary of our overall concerns. A more detailed documentation of our concerns can be found at the end of each section addressed in this submission.

- **The draft EIS is inadequate in its treatment of noise impacts, impacts on wildlife, declared wilderness, visual amenity and landscape in the GBMA and requires extensive change.** Included in this revision is the need for collection of baseline data over a period of at least two years to inform decisions for proposed flight paths.

- **Conduct an independent, expert peer review of the biodiversity of the GBMA** and the likely impact of the WSI flight paths on biodiversity. This review needs to be performed by species experts and include the risk of wildlife strike and its impact on species at risk of collision.

- **Establish a program of surveying and monitoring of wildlife** across the GBMA and other NSW NPWS properties which lie within and close to the 13 km wildlife buffer. The methods must reflect rigorous, scientifically accepted techniques in line with Australian Government and World Heritage Committee Guidelines. These surveys need to be conducted over a minimum of two years, across all seasons and cover examples of each habitat type. The monitoring sites are to be maintained long-term, to ensure any adverse impacts are quickly identified and managed or mitigated.

- **Establish an independent review into Sydney Basin Airspace,** including redesigning flight paths for both for Kingsford Smith Airport (KSA) and for WSI which will ensure that jet aircraft **do not fly over the GBMA at less than 31,000 ft.** The draft EIS does not justify why this has not been investigated. Redesigning flight paths from KSA and WSI could produce more solutions to alleviate many of the potential negative impacts on GBMA in addition to ensuring more equitable noise sharing across the Sydney Basin.

- **Implement a curfew for WSI airport from 11pm to 6am** as is the case with Kingsford Smith Airport (KSA). Implementation of such a curfew would redress some of the inequities between WSI and KSA and reduce likely negative impacts of the overflights on nocturnal wildlife in addition to improving health and social outcomes of people in the Blue Mountains villages.

- **Devise mitigation and management measures** that include details of proposed actions beyond the current offering of “plans for actions”. These are to be made available for public comment before their implementation. According to the UNESCO Guidelines, adverse impacts on OUV must first be avoided. These measures need to cover all aspects of the project that may negatively impact the OUV of the GBMA and the large, declared wilderness areas. They must also recognize and account for future likely cumulative risks such as additional infrastructure, road and rail transport, and added tourism impacts.

- **Institute new modelling of the impacts of noise** on the GBMA and other NSW NPWS properties which will have aircraft overflights. This includes establishing an independent reviewing of noise impacts on wildlife and consideration as to how to minimize and mitigate negative effects. Statements suggesting that wildlife will simply adjust to the noise show an insufficient appreciation of the complex behaviour of wildlife and the complex interactions between elements of ecosystems. The new modelling will monitor noise levels in several locations within the GBMA, including remote sites to obtain a more accurate measure of ambient noise in areas away from urban sites or anthropomorphic noise production.

- **Assess the draft EIS against World Heritage listing criteria and requirements of the EPBC Act 1999** in relation to Matters of National Environmental Significance. This will require new baseline data on biodiversity, noise and other potentially negative impacts to firstly be collected and analysed.

- **Adequately assess the impacts of WSI flight paths on declared Wilderness in GBMA.** The EIS has failed to adequately assess the importance and impacts of the proposed flight paths on declared wilderness in the GBMA. Sixty-five per cent of the GBMA is declared wilderness. Even though it is created by state legislation, the OUV for the GBMA recognises its significance and states that it should be protected as a matter of national environmental significance.[51]

- **We call on the Federal Minister for the Environment, the Hon. Tanya Plibersek, to convene a public inquiry** into the draft 2023 draft EIS to examine alternative flight paths and redesign Sydney Basin Airspace, avoiding flights over the GBMA of lower than 31,000ft thus minimising harm caused to the GBMA by WSI operations. The EPBC Act allows the Minister to revoke her decision to assess the impacts of this proposal through an EIS and direct it be assessed through a public inquiry.[52]

[51] UNESCO World Heritage Convention, Greater Blue Mountains Area. Available online: https://whc.unesco.org/en/list/917/

[52] "Section 90 Directing an inquiry after starting an assessment" of the EPBC Act states:

> "Revoking and substituting decision
> (2) The Minister may revoke the first decision and make another decision (the ***new decision***) under section 87 (in substitution for the first decision) that the relevant impact of the action must be assessed by an inquiry under Division 7."