

The Impact of Helicopters on Blue Mountains Wildlife and other World Heritage Values



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1. Blue Mountains World Heritage values include:

- Criteria (ix): ...Representative examples of the dynamic processes in its eucalypt-dominated ecosystems cover the **full range of interactions between eucalypts, understorey, fauna, environment and fire...**
- Criteria (x): ... The diverse plant communities and habitats support more than 400 vertebrate taxa (of which 40 are threatened), comprising some 52 mammal, 63 reptile, over 30 frog and about **one third (265 species) of Australia's bird species ...**

Ecosystem interactions are recognised in each of the above listing criteria. Any major disruption to any element, such as to birds and other animals, will impact on the whole and may ultimately be to the detriment of the sustainability of small to large parts of the World Heritage Property.

2. Researched impacts of helicopters and other aircraft on wildlife

Research world-wide has produced a common set of impacts by aircraft on wildlife:

- 2.1 **Physical contact with birds and bats in the air**, and animals on runways, usually results in immediate death or severe untreated injuries.
- 2.2 **Noise**: knows no boundaries; protected areas do not guarantee animals or recreationists refuge from its effects; chronic noise exposure may occur even in remote wilderness sites. Noise from aircraft overflights has the potential to affect a wide range of habitats.
- 2.3 **A combination of loud noise and sudden and rapid movement** of aircraft **causes the greatest negative effects on wildlife** with **helicopters having a greater impact** than fixed wing planes. While birds and other animals can habituate to regular human impact, sudden, noisy intermittent helicopter intrusions would constitute bursts of alarm-filled harassment.
- 2.4 **Helicopters** are particularly associated with **lethal rotor downwash and brownouts**: high velocity wind vortices are generated by helicopter blades when the machine is hovering above a runway or bushland. This generates smothering blankets of airborne dust particles, reduces habitat values and exposes vegetation and wildlife to lethal wind velocities.
- 2.5 **Impacts of noise, sudden rapid movement and rotor downwash include:**
 - **Direct physical damage** such as to hearing or being shredded by rotor downwash
 - **Triggering of the animals 'fight or flight' response** – this is **characterised by a number of physiological changes brought on by the release of stress hormones** into the blood stream. The animal's metabolism, heart rate and respiration rate all increase, blood flow is diverted away from the digestive system and skin to the muscles, brain and heart, while blood temperature and blood sugar levels also increase.
Repeated exposure to noise and triggering of this response **can lead to chronic stress**. **The health of affected animals** may be **compromised** by suppressing immune function, making them more susceptible to infection and parasites, altering growth, and by slowing recovery from food shortages.
 - **Individual mammal responses** range from the mild (including normal signs of noise detection such as ear twitching or increased vigilance), through to a range of increasingly

intense reactions. Animals may alter their activity by walking slowly away, freezing, crouching, making an intention to run, engaging in mild aggression, or increasing flocking or herding behaviour. The **most intense responses are associated with more extreme behaviours**, such as panicking, urinating or defecating, and running blindly at high speed.

Birds show a similar range of responses to mammals from being alert at the mildest level, to showing an intention to fly, pecking at each other, broken-wing displays (to act as a distraction to protect nestlings) and walking, swimming or flying short distances.

- **Changes in the acoustic environment** may impact severely on birds, frogs and other animals that **rely on their hearing** to receive information about their surroundings, or who **use vocalisations** to coordinate a range of activities including feeding, mating and courtship. **Bats** that use echolocation for navigation **are particularly vulnerable to acoustic environment changes**, as are social animals that rely on vocal communication for the cohesiveness of their group. Consider the impact of helicopter noise on **lyrebird calls and mating behaviour** in the Jamison Valley and disruption to the sophisticated community calls of **Superb Fairy-wrens** warning of danger.

2.6 **Behavioural and physiological responses** as outlined above **may result in a decline in individual numbers** through **collisions with aircraft** and the **rapid flushing of alarmed birds from nests (impacting on reproduction rates), feeding areas or cliff edges**. Short-term avoidance of sections of habitat may become long-term **habitat displacements which results in competition for resources including food, roosting branches and nesting hollows and an eventual loss of individuals and even species**.

3. **Observed impact of helicopters on Honeyeater Migration in Autumn 2018**

The GBMWA was declared an IBA (Important Bird and Biodiversity Area) by BirdLife International in 2017. A triggering criterion for this listing was the autumn migration of the Yellow-faced Honeyeater and their congregation during this event in the higher altitudes. With annual numbers exceeding 200 000, and accompanied by other species, these birds sweep up onto the plateau from the southern valley, feed on heath and woodland plants especially *Banksias* and dependant insects, then continue their flight north across the Grose and beyond.

Figures obtained from the 2018 honeyeater count and observations of the counters indicated that helicopters involved in the site preparation for the Mt Solitary hazard reduction fire had an immediate negative impact on migrating flocks. Birds 'disappeared from the sky' and numbers counted dropped markedly. **Imagine the future scenario** in the vicinity of Narrow Neck or the Mt Hay ridge in April and May where these birds are feeding every day on *Banksia ericifolia* flowers and a helicopter suddenly whooshes up from the Megalong, Jamison or Grose Valleys and over the range at a low elevation, an action perhaps repeated several times a day without warning.

This activity will have **consequences** including dislocation of flight paths, death of struck birds, disruption of feeding patterns, decreased strength of the birds engaged in a lengthy migration if they are diverted off-course from food supplies, and stress impacts on physiology. Negative impacts may then flow through associated ecosystems. Pollination services from birds, seed production and plant community regenerative capacity may decline. **This honeyeater bird migration is a world recognised phenomenon of great significance. How can the commercial interests of just a few people be allowed to inflict such damage on Blue Mountains wildlife?**

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