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- Fauna surveys
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**Possible impact of artificial night lighting on the Powerful Owl**

The Powerful Owl is listed as threatened (category Vulnerable) on the NSW *Threatened Species Conservation Act*. A breeding population exists in the upper Lane Cove Valley around South Turramurra, centred in the forest gullies of Lane Cove River National Park (e.g. Devlins Creek nest site) and adjoining Bradley Reserve.

There is no specific scientific research on the possible impact of artificial night lighting on the Powerful Owl. However, under the precautionary principle and on the basis of my literature research and field experience, the following effects might apply.

Artificial lighting is known to inhibit activity in the nocturnal Sugar Glider, a prey species of the Powerful Owl, and may therefore have a similar effect on other possum species (e.g. Common Ringtail Possum, Common Brushtail Possum), which are major prey species of the owl in urban bushland in Sydney.

Some common bird prey species of the Powerful Owl, e.g. Rainbow Lorikeet (which forms large, noisy roosts), are known to roost near artificial lighting as a means of detecting and thus avoiding their natural predators.

Artificial lighting is known to encourage nocturnal foraging by daytime birds (e.g. magpies, currawongs and kookaburras), which may therefore increase competition with nocturnal birds for food. Although this effect may relate mainly to competition with small owl species for insect prey and foraging space, Powerful Owls (nest-tending females, young learning to hunt) do eat some insects.

The above effects combined could conceivably affect the ability of Powerful Owls to find food in well-lit areas, with possible consequences for their body condition and breeding success. Therefore, a proposal to install strong night lighting should include an assessment of Powerful Owl habitat use in the adjoining conservation reserve.

A handwritten signature in black ink, appearing to read 'S Debus'.

Dr Stephen Debus