

# An Osprey *Pandion haliaetus* breeding pair subjected to avian mobbing from the first hours of nest building

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**Abstract.** During June 2024, a breeding pair of Ospreys *Pandion haliaetus* in Ballina, New South Wales, were monitored daily for five days. This enabled pinpointing the start of nest construction to the approximate hour. During a subsequent 70-min period, avian mobbing from four species, the Magpie-lark *Grallina cyanoleuca*, Pied Butcherbird *Cracticus nigrogularis*, Willie Wagtail *Rhipidura leucophrys* and Blue-faced Honeyeater *Entomyzon cyanotis*, were recorded in 12 of the 13 times a Osprey returned to the site with new nesting material. Despite the Ospreys merely beginning to build their nest, the observations showed they were experiencing avian mobbing (ranging from repeated aerial swooping to gazing from a close-by perch) at a frequency of 10.3 separate mobbing events per hour, or more than one every 6 min.

**Keywords:** birds of prey; breeding ecology; interspecific interactions; raptors

## INTRODUCTION

Globally, animals exhibit several anti-predator defensive strategies (Caro 2005; Bateman *et al.* 2014; Apfelbach *et al.* 2015). Behaviours in which prey species actively antagonise a potential predator, known as mobbing, are particularly notable in birds (Hendrichsen *et al.* 2006; Krams *et al.* 2006) and mammals (Kirkwood and Dickie 2005). Such behaviours generally aim to drive the predator away or at least distract them (Clark 2005; Mo *et al.* 2016; Pawlak *et al.* 2019). Raptors, with their large body mass relative to other predatory birds, are particularly prone to mobbing. Thus, observations of these interspecific interactions have formed a keen area of study in raptor research (Olsen 2014; Bauer and McDonald 2018; Rebollo *et al.* 2023).

Ospreys *Pandion haliaetus* are conspicuous raptors owing to their global distribution widely coinciding with human settlement areas (Dennis and Clancy 2014; Poole 2019) and their selection for tall, exposed structures when nesting (Thomson *et al.* 2019). In particular, Ospreys frequently build nests on manmade structures (Washburn 2014; Mo *et al.* 2024), including artificial platforms specifically designed and erected for their use (Rhodes 1972). The accessibility of the species to researchers and amateur naturalists has facilitated a growing number of behavioural studies of Ospreys (Bischoff 2001; Clancy 2005; Dennis and Baxter 2006; Kennard and Kennard 2006; Dennis 2007a,b; Dennis *et al.* 2011; Singor 2024).

Ospreys exhibit a strict annual reproductive cycle, with a single egg clutch incubated in the winter months (Clancy 1989, 2006; Marchant and Higgins 1993). They are known to be mobbed by other birds during nesting (Rose 2000; Clancy 2005; Mo 2023), though patterns in these interspecific interactions relative to respective breeding stages are still being understood. This report contributes observations of a breeding pair of Ospreys receiving intense avian mobbing, with prior daily monitoring of the site showing that these interspecific interactions were occurring from the first hours of nest construction activity.

## METHODS

A breeding pair of Ospreys in Ballina, Northern Rivers region of New South Wales (28.8708°S, 153.5734°E), were observed over five consecutive days from 3 June 2024. Daily monitoring during the study period, both of the Ospreys and an artificial pole-and-cradle structure in the vicinity, enabled pinpointing the time the Ospreys commenced constructing their nest on the structure. On the morning nest construction commenced, the nest site was observed for a 70-min period. During these observations, interspecific interactions were noted, recording details such as the bird species interacting with the Ospreys, the type of behaviours occurring, duration of interactions and the Ospreys' visible response to those interactions.

## RESULTS

Initial observations on 3 June 2024 determined that the Osprey pair was in the vicinity of the artificial pole-and-cradle structure. The Ospreys were observed perching and feeding on caught fish on top of streetlight posts within 300 m, at which stage the structure was devoid of any nesting materials. Similar observations were made of the Ospreys perching nearby and the structure lacking nesting materials every morning of the subsequent three dates, from 4 June to 6 June 2024.

On 7 June 2024, the pole-and-cradle structure still had no nesting materials at 0600 hr, but upon re-inspection at 0735 hr, the first 14 to 20 sticks and branches had been deposited. Almost immediately, an Osprey arrived with another stick. As soon as it landed on the developing nest, it was swooped repeatedly by a Magpie-lark *Grallina cyanoleuca* (Fig. 1). This Magpie-lark performed approximately 12 swoops in quick succession, only concluding when the Osprey alighted and flew away.

Over the remainder of the observation period, an Osprey returned to the nest with new nesting material on 12 more occasions. On 11 of those occasions, the Osprey received further avian mobbing. On five occasions (including the first



**Figure 1.** An Osprey in the developing nest receiving aerial swoops from a Magpie-lark.

Photo: Matthew Mo

swooping interaction described above), mobbing was received from a lone Magpie-lark performing swooping actions. In all cases, the Magpie-lark also swooped repeatedly and did not relent until the Osprey had moved away from the nest. In all cases, the Osprey was visibly disturbed by the mobbing.

On another five occasions of an Osprey returning to the nest, mobbing was received from a lone Pied Butcherbird *Cracticus nigrogularis* in the form of repeated swoops, as well as perching on the pole-and-cradle structure and maintaining gaze. In all cases, Butcherbird mobbing was short-lived (less than 1 min) and it moved away before the Osprey departed to gather more nesting material. Though, I also observed one Butcherbird returning while the Ospreys were away, appearing to investigate the nest (Fig. 2). Unlike Magpie-lark mobbing, Butcherbird mobbing elicited less agitated responses from the Ospreys, but the Ospreys did maintain vigilance during this mobbing.

Two other bird species also mobbed the Ospreys, though on fewer occasions than the Magpie-lark and Pied Butcherbird. On two occasions of an Osprey returning to the nest, it was left alone for approximately 1 min before receiving four to six repeated swoops from a lone Willie Wagtail *Rhipidura leucophrys*. In both cases, mobbing elicited little to no attention from the Osprey and the Wagtail left immediately after performing their swoops. The Blue-faced Honeyeater *Entomyzon cyanotis* also mobbed, but only on one occasion and this was limited to perching in front of the Osprey and maintaining gaze for approximately 2 min before flying away. In this event also, the Osprey displayed little to no reaction.

## DISCUSSION

While avian mobbing of Ospreys has been documented previously (e.g., Rose 2000; Clancy 2005; Mo 2023), the observations reported here demonstrate avian mobbing



**Figure 2.** A Pied Butcherbird inspecting the Osprey nest while the Ospreys were away ferrying additional materials.

Photo: Matthew Mo

commencing at the very earliest stages of nest building. Notably, there was a high frequency of mobbing events. When quantified in terms of the number of separate times the Ospreys were present at the nest, mobbing occurred on 12 of the 13 times Ospreys returned to the nest with new material. The observed mobbing frequency can also be expressed as 10.3 separate mobbing events per hour, or more than once every 6 min approximately.

The species recorded initiating mobbing were also of interest. To my knowledge, Magpie-larks and Willie Wagtails have only been reported as mobbing species of Ospreys once previously in a recent study (Mo 2023). Similarly, while the Blue-faced Honeyeater has been recorded mobbing smaller birds of prey, such as goshawks (Burton 1993) and owls (Sedgwick 1947; Pizzey 1980), and potentially investigating Osprey nests (Mo 2023), there does not appear to be published reports of Blue-faced Honeyeaters actually mobbing Ospreys.

Although Ospreys have a cosmopolitan range (Poole 2019), the environmental legislation of two Australian states recognise the species as threatened, with status assessments referring to loss of breeding habitat, human disturbance at nest sites, chemical pollution of foraging habitat and prey, and fishing tackle entanglement as the main ongoing threats (NSW Scientific Committee 2009; Detmar and Dennis 2018). Specifically, Ospreys are currently listed as Vulnerable in New South Wales (NSW Scientific Committee 2009) and Endangered in South Australia (Detmar and Dennis 2018). Thus, further studies of the species in Australia are worthwhile.

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