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Nesting Eastern Ospreys *Pandion haliaetus cristatus* exploiting construction-tower cranes in a populous city

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Abstract. Globally, Ospreys *Pandion haliaetus* are well known to nest on artificial structures, prompting conflicts with humans when nests are built on utility and communications infrastructure. This note describes two cases of Osprey nests that had been built on top of construction-tower cranes. Fortunately for the birds, both cases were on construction sites that were halted for other reasons. These observations raise the question whether similar scenarios on active construction sites would add to the existing span of human–Osprey conflicts, with the potentially awkward juxtaposition between the need to minimise human interference to nests and construction sites being characterised by high levels of human activity. This is especially of concern with the Osprey listed as a threatened species in some jurisdictions, such as New South Wales and South Australia.

Introduction

The Osprey *Pandion haliaetus* is a widespread raptor represented on all continents except Antarctica (Poole 2019). The subspecies that occurs in coastal regions of Australia is the Eastern Osprey *P. h. cristatus*, which also occurs in Indonesia, New Guinea and the Philippines (Dennis 2007a). Some authorities consider the Eastern Osprey as a full species as a result of morphological and genetic differences (Wink *et al.* 2004) but most have retained its subspecies status (Monti *et al.* 2018; Gill *et al.* 2023), including the most recent Working List of Australian Birds (Version 4.3: BirdLife Australia 2023). Although the Osprey as a global species has been assessed under the International Union for Conservation of Nature as of Least Concern (BirdLife International 2019), the Eastern Osprey is listed as Vulnerable under New South Wales (NSW Scientific Committee 2009) and as Endangered under South Australian (Detmar & Dennis 2018) environmental legislation. Consequently, the locations of individual nesting sites garner considerable attention (Clancy 1989; 2006; Rose 2000; Bischoff 2001; Dennis 2007a,b).

Globally, Ospreys are a conspicuous raptor, both in occurring commonly in settled areas (Dennis & Clancy 2014) and from their preferences for building nests on tall, exposed structures (Clancy 2006; Thomson *et al.* 2019). In particular, cases of Ospreys nesting on artificial structures are well documented (Rhodes 1972; Washburn 2014; Mo 2023). Breeding pairs of Ospreys typically lay a single clutch annually, which is incubated during the winter months (Marchant & Higgins 1993; Clancy 2006). Clutch sizes generally comprise between two and four eggs (Marchant & Higgins 1993).

Here, we provide notes of two cases of Ospreys with nests built on top of construction-tower cranes, both in suburban areas of Sydney, New South Wales.

Observations

The first case was at a halted residential construction site within the Sutherland Shire. The Ospreys nested there during the winters of 2018 and 2019. In both breeding seasons, the nest situated on top of the crane's counterbalance was a bulky accumulation of large sticks combined with pieces of seaweed. Over five inspections of the nest across the two breeding seasons, we observed no construction works, corroborated with local residents' reports that the construction site has been halted from 2018 to the present. The crane has thus been stationary, other than rotations during gusts of wind, which did not appear to elicit any disturbance to the Ospreys. The Ospreys ceased nesting on this tower crane after the 2019 breeding season and have not yet returned. We do not disclose the exact location for the protection of the Ospreys should they resume breeding at this site.

The second case we observed was also at a halted residential construction site and thus the tower crane was not being used. This was in the neighbouring St George district, with the Ospreys nesting during the winters of 2023 and 2024. Only a minimal amount of nesting material was visible when the nest was viewed from the ground but most of the nest structure might have been in the cleft between the concrete blocks (see Figure 1). According to local residents, construction works at this site had halted in 2021 before the Ospreys built their first nest. Like the previous case, wind-induced rotation of the crane did not appear to seriously disturb the breeding pair.

Discussion

Cases of Ospreys nesting on tower cranes have previously appeared in news media reports (e.g. Hernandez 2017; Hedgpeth 2018) and recent scientific literature (Singor 2024). Given the frequency of Ospreys exploiting artificial structures for nesting sites (Rhodes 1972; Washburn

Figure 1. The Eastern Osprey nest situated on top of a construction-tower crane. Photos: Matthew Mo

2014), it is plausible that more cases of nests being built on tower cranes, like the two documented here, will arise, especially with the high volume of residential construction occurring across the Sydney region and other highly populated areas along the eastern Australian coastline (McGuirk & Argent 2011).

The use of artificial structures by nesting Ospreys has prompted some human–wildlife conflicts. These conflicts have mainly been attributed to Osprey nests built on utility and communications infrastructure, which may incur damage to equipment and cause service interruptions and/or impact proponents' ready access to this infrastructure for maintenance and upgrades (Harness & Wilson 2001; Washburn 2014). The use of tower cranes as nesting sites raises the question whether these scenarios would further contribute to these conflicts, considering the potentially awkward juxtaposition between construction sites being locations of high levels of human activity and the need to minimise human interference to nests, especially with the Osprey as a Threatened species in some jurisdictions (NSW Scientific Committee 2009; Detmar & Dennis 2018). These two cases in the present study fortunately involved construction sites that were halted for reasons unrelated to the Ospreys' activities, enabling nesting attempts to proceed with little to no impacts on site managers. However, on active construction sites, these scenarios would be problematic if workflow disruptions, and costs associated with these outcomes, are incurred in order to minimise impacts on the birds. On the contrary, perhaps Ospreys would be less likely to establish nests on construction cranes at active construction sites as a result of the high levels of human activity and cranes being in operation.

In both cases, we observed rotations of the tower cranes caused by wind gusts. Nests on tower cranes are potentially the only examples of structures exploited by nesting Ospreys that exhibit these levels of motion. In neither case did we observe any evidence of the Ospreys being disturbed by the rotations. Thus, as far as we are aware, it would appear that Ospreys are tolerant of this movement.

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