canberra
bird
notes

ISSN 0314-8211

Volume 42
Number 3
December 2017

Registered by Australia Post 100001304
INVALID EVIDENCE FOR PURPORTED ‘COLLAPSE’ IN THE
NUMBER OF BREEDING LITTLE EAGLES IN THE
AUSTRALIAN CAPITAL TERRITORY

PENNY OLSEN AND STUART RAE

Division of Ecology and Evolution, The Australian National University,
Acton, ACT 2601, Australia
Correspondence to: penny.olsen@anu.edu.au

Abstract. Publications relating to numbers of Little Eagles (Hieraaetus morphnoides)
breeding in the Australian Capital Territory were reviewed and found to be seriously
flawed. Hence, it cannot be ascertained whether the breeding population has
declined since the 1980s or not.

Following repeated scurrilous and misinformed allegations (most recently in Debus
2017, p. 83) relating to the ACT Scientific Committee’s supposed ‘refusal to
consider or recognise the Little Eagle (Hieraaetus morphnoides) as qualifying for
Endangered status in the ACT’ (p. 83), we felt it was time to review the record. One
of us (PO) is on the committee and was a party to that determination. The statement
is patently untrue, as the Little Eagle’s consideration by the ACT Scientific
Committee is a matter of public record (ACT Government 2008). The Committee
determined on assessment of the limited evidence (which did not include a map, as
asserted) that the Vulnerable category should apply. The species is also listed as
determinations/littleeagleFD.htm).

Both determinations were made in part because of claims of a ‘collapse’ in the
number of breeding pairs of the species in the ACT between the early 1990s and
2002 and following years, made by Jerry Olsen and colleagues (Olsen and Fuentes
2005, Olsen and Osgood 2006, and subsequent reports in Canberra Bird Notes and
elsewhere).

These claims rely either on reports of 11 ‘active nests’ (drawn from Olsen 1992,
cited in Olsen and Fuentes 2005, p. 143, and elsewhere), or on 13 Little Eagle
‘territories’ in the ACT (drawn from Taylor and COG 1992, p. 52). By comparing
this baseline of 11 or 13 pairs with dedicated annual surveys for the species from
2002, which detected between one and five pairs, a severe decline in the breeding
population was proposed (e.g. Olsen and Fuentes 2005, Olsen 2014, etc.).

It was suggested that this proposed decline was linked to several factors including
land development. Further, these same population estimates were used to bolster
suggestions that secondary poisoning from Pindone and not declining rabbit numbers
was the cause of the decrease in breeding eagle numbers (Olsen et al. 2013a), to
propose that competition with and displacement by increasing numbers of Wedge–
tailed Eagles were the cause of the collapse (Olsen and Fuentes 2005, Olsen et al.
2010, 2013b) and to questioning the reliability of atlas counts to monitor the eagle population (Debus et al. 2013).

However, both baseline publications have been interpreted inappropriately. Olsen (1992) did not conduct a survey of Little Eagles across the ACT; the focus of that study was the Peregrine Falcon. Nevertheless, he identified 11 sites with ‘active nests’ of Little Eagles ‘in and near the ACT’ over the years 1990–1992 (Olsen and Osgood 2006, Olsen et al. 2009). Presenting an aggregation of three years of activity obscures the fact that it is unlikely that each nest site was occupied by an active pair in each of the three years. It is well known that not every pair of Little Eagles breeds each year and that there can be alternative nest sites within an assumed (large) territory (e.g. Baker-Gabb 1984; Mallinson et. al. 1990; Debus and Ley 2009). Olsen et al. 2013c, p. 197, even comment that pairs can use nests as far as 5 km apart in different years. Hence, the baseline of 11 is not comparable with an annual tally, as has been done in Olsen and Fuentes (2005) and subsequent papers on the subject in Canberra Bird Notes.

Further, all related publications that present these numbers in graphs show not 11 but 13 pairs in 1991 (e.g., Debus et al. 2013, Olsen et al. 2013a, c, Olsen 2014 p. 145), which not only exaggerates the proposed reduction in numbers but is a misrepresentation of Taylor and COG (1992) both as to numbers and year. Taylor and COG (1992) was not a dedicated survey, it attempted to cover all bird species across the ACT and netted 13 Little Eagle breeding locations over several years from the late 1980s to 1990 or 1991 (not just the year 1991 or early 1990s as claimed in Olsen and Fuentes 2005 and thereafter in Olsen and colleagues’ publications). Aggregation of nest locations over several years can lead to over counting of pairs. Thus, the Taylor and COG survey neither equates to 13 breeding pairs in each of those years from the late 1980s to 1991, nor is it comparable to a dedicated annual survey for the species.

Not only are Olsen and colleagues’ baseline figures inappropriate, but their annual tallies are questionable. The same annual tallies are variously reported as ‘active pairs’, ‘active nests’ (single bird, pair only or pair with eggs and young) or ‘successful’ (pair with eggs or young). For example, the same set of annual tallies are labelled ‘active nests’ in Olsen and Osgood (2006, p. 179) and became ‘successful nests’ in Olsen 2013c (p. 197); they cannot be both. Moreover, the definition of what constitutes a successful breeding attempt varies between a pair of eagles with eggs or young, and a pair that has fledged at least one young. Terminology used in describing the breeding success needs to be consistent if it is to be reported and subsequently compared with later years or other studies, and ‘successful’ should only be applied to pairs that have raised at least one chick to fledging (e.g., Steenhof et al. 2017). If pairs were known to have had eggs or young, why was the outcome not followed up?

There are numerous other discrepancies between their publications, for instance:

- Numbers vary across publications. For example, for the year 2002, Olsen and Fuentes (2005, p. 143) and Olsen and Osgood (2006, p. 179) table three pairs with eggs or young, whereas Olsen et al. (2013c, p. 197 and elsewhere) graph five ‘successful nests’ for that year.
Olsen and Fuentes (2005, p. 143) state that there were ‘no successful Little Eagle nests in the ACT in 2005’, whereas Olsen et al. (2013c, p. 197, and elsewhere) graph three ‘successful’ nests and Olsen and Fuentes (2005, p. 143) and Olsen and Osgood (2006, p. 179) table only two ‘active’ nests (a pair and a pair with eggs or young) for that year.

Debus et al. (2013) present the annual number of ‘active’ breeding pairs as occurring one year earlier than other publications, that is, one pair in 2010, rather than 2011, and so on.

In 2007, there were no ‘active nests’ (this time defined as having at least one egg or young) among the 11 original pairs, according to the table in Olsen et al. 2008 (p. 79), and the survey group ‘failed to confirm nesting in 11 1992 territories’ (p. 80), so the three new nests reported must have been in territories elsewhere in the ACT and could have been overlooked in previous surveys. If the authors had been consistent, they should have added the three to the total, raising the baseline to 14 pairs in future publications, but they did not.

Not least, despite the implied comprehensiveness in their publications, particularly when Taylor and COG are used as the baseline, Olsen and colleagues did not survey the whole ACT. Indeed, in 2008 they started ‘a new survey [to] find all possible Little Eagle territories in the ACT’ (Olsen et al. 2009, p. 81). Moreover, at least one of the 11 nests documented in 1992 was not in the ACT (Olsen and Fuentes 2005, etc.). Hence, their data are incomplete and too inconsistently collected to give a reliable estimate of the ACT breeding population.

Unfortunately, Olsen and colleagues’ questionable studies have entered the recent literature without critical appraisal, even in the face of contrary reports. For example, Walsh and Beranek (2017) cite the studies to make a case for listing the eagle as Endangered in NSW and the purported collapse and its supposed causes have received several airings in Boobook (e.g. Olsen and Trost 2017). Debus (2017, p. 82), reported an ‘ongoing decline’ in the ACT breeding population, whereas it is on the record that for the moment the population is ‘stable at low levels’ (J. Olsen, cited in COG 2016). Lastly, Hermes (2017, p. 78) states that there is ‘strong evidence of a rapid decline’ in Little Eagle numbers in the Australian high country, even though, according to Debus et al. (2013), COG atlas counts show little sign of a decline over the longterm.

In the absence of rigorous data, there is no way to know how many breeding pairs of Little Eagles there were in the ACT historically (in the 1980s–1990s), or since 2002, because Olsen and colleagues’ data are confused, incomplete and inconsistent. Hence, there is no evidence for the proposed ‘collapse’ in breeding numbers of Little Eagles in the ACT. Consequently, all related publications are irrevocably compromised and, most unfortunately, conservation decisions based on the purported decline have been undermined. There is a pressing need for a reliable, scientifically robust study of the status of the eagle in ACT.
References


*Accepted 1 November 2017*