

An Update on the Bird Surveys in Sydney Olympic Park

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7 June 2016

Introduction

The annual Spring Bird Census (SBC) was introduced in 2004 and is a valuable long term survey of the bird population at Sydney Olympic Park. This long-term monitoring program allows the assessment of trends in bird abundance and diversity, and the performance of management activities. As bird populations are dynamic and may fluctuate over seasons or years, long-term monitoring is required to allow for meaningful interpretation of trends.

Sydney Olympic Park supports a rich natural environment that includes over 250 native animal species, over 400 native plant species and three endangered ecological communities. The high ecological values of the Park have resulted in 304 hectares (nearly half of the Park) being zoned under NSW planning legislation for environmental conservation and management.

Key habitats include estuarine and freshwater wetlands, remnant eucalypt forest, saltmarsh meadows and woodland bird habitats. The Park's habitats are a restored landscape, and demonstrate what can be achieved when conservation is mainstreamed with development.

The Park's biodiversity is of high conservation significance, and makes a major contribution to the social and economic values of the Park. The Park's natural environments enrich visitor experience, provide a living classroom for environmental education programs, and attract businesses and residents seeking proximity to nature.

Conserving the natural environment is one of five key result areas identified in the Authority's Corporate Plan. Key actions identified in the Corporate Plan in support of this goal are to:

- Protect and enhance the Park's rich biodiversity
- Encourage community participation in environmental programs.

Management

The Sydney Olympic Park Authority (SOPA) is committed to promoting active and adaptive management of key flora and fauna species, communities and habitats through the Biodiversity Management Plan. This Plan identifies: Migratory shorebirds (eg Latham's Snipe), Woodland birds (eg Red-rumped- Parrots) and Waterbirds (eg Black-winged Stilts). Raptor species, as a group, are of particular conservation significance. The annual SBC is the fundamental source of data for monitoring environmental performance for birds at both precinct and parklands scales.

Woodland birds at Sydney Olympic Park are defined as species that are dependent on woodland and forest remnants. The SOPA Biodiversity Management Strategy recognises 59 woodland bird species at the park, 31 are considered as woodland-dependant. This list excludes urban opportunists and birds with aggressive behaviour such as Grey Butcherbird, Laughing Kookaburra, Noisy Miner and Australian Magpie. Of interest within this group are those considered to be at particular risk of

decline within Sydney Olympic Park: Double-barred Finch, Eastern Rosella, Red-browed Finch, Spotted Pardalote, Superb Fairy-wren, White-browed Scrubwren and Yellow-rumped Thornbill. A recent CSIRO report classes three species as declining in population status nationwide: Crested Shrike-tit, Rufous Whistler and Eastern Yellow Robin.

The use of habitat at the Park by these birds is affected by factors such as shrub cover, ground litter and the presence of aggressive species. Declines may be caused by lack of corridors for dispersing and several species have been implicated in the decline of smaller woodland species either through aggression or nest predation, particularly the native Noisy Miner.

Wentworth Common, the Brickpit and Boundary Creek all rate highly for both species richness and total abundance.

Population trends

Comparisons of average counts between 2004 and 2014 show that the majority of woodland bird species have either steady or increasing population trends, however, many species are recorded in such small numbers that interpretation of data and any inference drawn should be considered carefully. The Superb Fairy-wren has been the most abundant woodland bird since 2004; the average count per survey (150 individuals) in 2014 is five times that of the next most abundant species, the Red-browed Finch. Fairy-wrens were common in many precincts; the top 3 hotspot precincts in 2014 are the Brickpit (195), Kronos Hill (161) and Newington Nature Reserve (NNR) Wetland (149), closely followed by Boundary Creek in the Town Centre (147). This highlights the Fairy-wren's adaptability in areas where shrubs and grasses are present.

Average number per survey

The high species diversity of Wentworth Common where woodland birds and Noisy Miners appear to co-habit may be due to the presence of trees that are still maturing. These trees were planted in 2006. From the wider Park experience, it is known that woodland bird numbers and richness start declining when trees begin to mature and numbers of aggressive species increase. There is a risk that this site, currently very rich in woodland bird species will now begin to decline with reducing habitat value. (Since this report was written, there has been an extensive planting program on Kronos Hill with an under-planting of trees with shrubs and a grass layer).

2015-16 report card:

The Authority's Biodiversity Management Plan identifies that the number and diversity of raptors are a key performance indicator for ecological health. This indicator forms a measure to inform management if habitat is in good condition

Between 2000 and 2016, 19 species of raptor have been recorded at Sydney Olympic Park, 7 of which are considered resident.

During 2015-16, a total of nine raptor species were recorded. Four species: Brown Goshawk, Black-shouldered Kite, Nankeen Kestrel and White-bellied Sea-Eagle were observed regularly through both the Spring Bird Census and incidental sightings. Five other species, Australian Hobby, Peregrine

Falcon, Barn Owl, Collared Sparrowhawk and Pacific Baza were recorded as individuals on one or two occasions.

All raptors are seen in small numbers and are widely spread across the Park. Both the Collared Sparrowhawk and Nankeen Kestrel have declined in activity since 2011. The Brickpit, Woo-la-ra and Newington Nature Reserve were hotspots for raptor sightings as both open grassland hunters and stealth hunters were able to utilise habitat in these precincts.

White-bellied Sea-Eagle *Haliaeetus leucogaster* (Gmelin 1788) is eligible to be listed as a Vulnerable species as, in the opinion of the NSW Scientific Committee, it is facing a high risk of extinction in New South Wales in the medium-term future. The combination of a decline in nesting success, a decline in the number of active nests and increased mortality indicate this species is in trouble. A future decline in the White-bellied Sea-Eagle in NSW exceeding 10% over three generations (~39 years) is therefore inferred.

Migratory birds

The Authority's Biodiversity Management Plan identifies that the number and diversity of migratory shorebirds, in particular the Bar-tailed Godwit, are a key performance indicator for ecological health. This indicator forms a measure to inform management if habitat is in good condition.

Five bird surveys, part of Sydney Olympic Park's Biodiversity Management Plan monitoring program, recorded a total of five migratory species within the wetlands of the SOP during 2015-16 .

The majority of sightings were at the Waterbird Refuge which remains the most active site for migratory shorebirds within the Park. Sightings also occurred at Main Lagoon and 33 Marsh, Newington Nature Reserve and Shipwreck Lookout, Badu Mangroves. This assessment does not include the Latham's Snipe as this species will be examined in a separate report (Latham's Snipe Report 2015-16).

A Common Sandpiper was observed for the first time since 2008, roosting and feeding around the barge at Shipwreck Lookout and feeding in the Waterbird Refuge. A Double-banded Plover observed at the Waterbird Refuge in March 2016 is the first record of this species within the Park.

An incidental sighting of one Pacific Golden Plover was recorded at the Waterbird Refuge in November 2015. Observations from the Parramatta River estuary gave usual counts of: 125 Bar-tailed Godwits, 42 Sharp-tailed Sandpipers, 8 to 12 Black-fronted Dotterels, 20 Black-winged Stilts and 22 Avocets. All Godwits have been between Halliday and Henry Lawson Parks during high and low counts.

Evening waterbird surveys

The 2015-16 evening waterbird survey confirms that the wetlands of Sydney Olympic Park continue to form part of an inter-related network of wetland habitats in the Parramatta River estuary which is utilised by a range of waterbirds, including migratory species. Waterbirds move between these sites, which are important to different species at different times of the day and night for feeding and roosting, depending on the tide and other factors. Migratory shorebirds were observed at all sites excepting Mason Park.

The results indicate that within Sydney Olympic Park, the Waterbird Refuge, followed by Main Lagoon are the most important nocturnal roost sites for waterbirds, including the migratory Bar-tailed Godwit and Sharp-tailed Sandpiper. These species were recorded utilising the Park for nocturnal feeding and roosting at both low and high tides. The length of time the birds remain at the site throughout the night is unknown.

Three species of migratory shorebirds were observed during the evening survey: Bar-tailed Godwits (max 137 birds), Sharp-tailed Sandpiper (max 23 birds), Pacific Golden Plover (one bird).

Hen and Chicken Bay provides diurnal and nocturnal roosting and foraging habitat that is regularly utilised by large numbers of Bar-tailed Godwits at both low and high tides. The bay is subject to natural tidal regimes and provides substantial intertidal habitat for foraging, as well as several roosting sites that provide clear lines of sight. Like the Mason Park wetland, the main source of disturbance to waterbirds at Hen and Chicken Bay is likely to be from residents using the walking paths around the bay, particularly when walking dogs off-leash. During the evening waterbird surveys, off-leash dogs were observed swimming in the bay and chasing Bar-tailed Godwits and other waterbirds.

Latham's Snipe

Latham's Snipe is migratory and protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and international treaties (JAMBA, CAMBA & ROKAMBA). It is identified in the Sydney Olympic Park Biodiversity Management Plan as a focal species. Targeted Surveys for Latham's Snipe have been undertaken in Narawang Wetland each year since 2004.

Low numbers of Latham's Snipe (approx. 10) have been recorded in surveys each year, well below the population size present in the area prior to remediation in 1999 (60-100 birds).

Latham's Snipe over-winters in the Park between September and April. Their population was monitored through the annual Spring Bird Census and targeted Latham's Snipe surveys conducted in Narawang Wetland, a stronghold for this species, and other known habitats including the Northern Water Feature, Brickpit, Wentworth Common and Newington Armory.