

BIRDS OF THE WUNGONG DAM CATCHMENT BEDFORDALE, WESTERN AUSTRALIA.

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Abstract - This paper is an annotated list of the 124 species and subspecies of birds resident in or visiting the Wungong Dam catchment and adjacent areas.

INTRODUCTION

The Wungong Dam is situated about 5 km south-east of Armadale (about 40 km SSE of Perth) near the western edge of the Darling Scarp at 31. 11. 58.0 S and 116. 03. 57.0 E in the south-west of Western Australia. The catchment comprises an area of 12,845 ha or about 132 sq. km and much of this area has been disturbed to a varying degree. The area covered by this paper roughly includes the entire catchment, north to Bedfordale and Bungendore Park; south to Jarrahdale and Mt Randall areas; east to just beyond the Albany Highway (i.e. including Todd Road, 31 Mile Road and Sullivan Road); and west to the Wungong Brook crossing of South-Western Highway (i.e. including the Wungong Gorge and lower valley) and Nettleton Road (see Figure 1).

This paper is based mainly on data gathered during our 1500 + visits to the catchment and surrounding areas from the early 1990s to 2008 with frequent (sometimes daily) visits from 2000 to 2008. Additional data are available from the Storr – Johnstone Bird Data Bank including unpublished notes of B. McRoberts who made 231 visits to the Wungong Dam and lower valley between January 1985 and December 1997; J.M. & H. Start who made 5 visits to Bungendore Park between January 1991 and May 1994 and information from M. & I. Morcombe; M. Lewis and K. Sarti. Other relevant information for the south-west region generally was also extracted from the Storr – Johnstone Bird Data Bank.

In the annotated list we summarise for each species its relative abundance (whether it is very common, common, moderately common, uncommon, scarce or rare in the catchment); its distribution in the catchment (mapped for important species, see appendix); whether it feeds alone or in groups; status refers to the birds ecological status i.e. whether it is a resident or a breeding or non-breeding visitor, sedentary, nomadic or migratory; habitat preferences; breeding season (months in which eggs

are laid) and local movements. We also include remarks on historical changes in the relative abundance, status and distribution of species.

Climate

The climate of the Wungong catchment is subhumid, maritime Mediterranean, i.e. with hot dry summers and cool wet winters. Mean annual rainfall averages about 1100 mm most of it falling from late April to early October. Mean daily maximum temperature in January – February is about 30 ° C.

Habitats

- 1. Reservoir, recreation lake and Wungong Pipehead Dam.**

The Wungong Dam was completed in 1979, its reservoir is 5.8 km long and has a surface area at full storage of 30 hectares. It provides water for the Perth Metropolitan Area and some south-west towns. The recreation lake is situated just below the main dam at the end of Admiral Road and contains areas of shallow water and small *Typha* beds. It is largely surrounded by gardens, car parks and picnic areas. The Wungong Brook Pipehead Dam was built in 1925 in the Wungong Gorge, (lower valley area) to help supply water for the city of Perth.
- 2. Jarrah – Marri forest.**

This formation covers about 80% of the catchment and is the dominant vegetation on the Darling Range lateritic plateau. It consists mainly of tall Jarrah *Eucalyptus marginata* and Marri *Corymbia calophylla* with an understorey of Bull Banksia *Banksia grandis*, Snottygobble *Persoonia longifolia*, Sheoak *Allocasuarina fraseriana*, *Dryandra lindleyana*, *D. sessilis*, *D. praemorsa*, *Xanthorrhoea preissii*, *Hibbertia* spp., *Leucepogon* spp., *Hakea* spp., *Acacia* spp., and *Macrozamia reidlei*.
- 3. Wandoo woodland.**

This formation mainly occurs on deep red soils on the Darling Scarp. Main areas are on the north side of the recreation lake, Cooliaberra Spring and western slopes of the Darling Scarp from Armadale to Byford and including the westernmost portion of the lower Wungong valley. This formation is dominated by Wandoo *Eucalyptus wandoo* often with scattered Marri, Jarrah and Blackbutt *Eucalyptus patens*. The understorey is sparse and includes *Hakea lissocarpa*, *Macrozamia reidlei*, *Dryandra lindleyana*, *Grevillea pilulifera* and *Acacia pulchella*.
- 4. Allocasuarina (Sheoak) woodland.**

Open woodland of *Allocasuarina fraseriana* often mixed with Jarrah and Marri occurs on the more sandy soils. Areas of Rock Sheoak *Allocasuarina huegeliana* occur on erosion soils adjacent to or over granitic outcrops.

5. Riparian vegetation.

The main lower Wungong River is fringed with a woodland of mainly Flooded Gum *Eucalyptus rudis* and Paperbarks *Melaleuca* spp. Dense creekside thickets occur throughout the catchment and common plants here include *Melaleuca* spp., Peppermint *Taxandria* spp., *Leptospermum*. Stands of Blackbutt occur along some creeklines and gullies (e.g. Chandler Road) and patches of Bullich *Eucalyptus megacarpa* occur in upper eastern parts of catchment (e.g. 31 Mile Road, Gleneagle, Chandler Road and White Gum Road areas).

6. Heath.

A range of closed and open heaths occur in the catchment especially around granite outcrops, in swampy areas and in some gravel pits. Common plants include *Grevillea* spp., *Hakea trifurcata*, *H. undulata*, *Calothamnus quadrifidus*, *Verticordia acerosa*, *Allocasuarina humilis*, *Leptospermum erubescens* and *Xanthorrhoea preissii*.

7. Granite outcrops.

These occur throughout the catchment with the most extensive areas along the western edge of the Darling Scarp, the lower valley of Wungong (the Wungong Gorge) and in parts of the upper catchment e.g. Mt Randall, on Jarrahdale Road, Kooka Road, Coglan Road, Mcallister Road, Hakea Road, Chandler Road, Mirbelia Road, Bee Farm Road, Rock Road and Seldom Seen Road. Fringing vegetation is mostly low shrubs, forest or a herbland including *Borya sphaerocephala*, *Drosera* spp., *Stylidium* spp., lichens, mosses and ferns.

8. Areas of regrowth and exotic plantations.

Almost two-thirds of the upper catchment has been disturbed by timber harvesting and bauxite mining and contains a patchwork of Jarrah – Marri regrowth of varying ages from low shrubbery, pole stands to mature trees. One of the major aims of the catchment thinning process is to improve the regrowth forest by moving its structure closer to that of historical mature forest and increasing the growth of retained trees. Plantations of *Pinus* and exotic *Eucalyptus* occur in areas including Curtis Road, Albany Highway, Gleneagle, White Gum Road and Old Haul Road.

ANNOTATED SPECIES LIST

Classification and nomenclature follows Johnstone (2001).

Family Casuariidae

Dromaius novaehollandiae (Latham, 1790) Emu

Uncommon, in ones, twos and occasionally family parties (up to 6). Mainly in upper sections of the catchment including Curtis Road, 31 Mile Road, Chandler Road and the Gleneagle and Jarrahdale areas. Not recorded in the lower valley or in Bungendore Park. Recorded in Jarrah – Marri forest, Jarrah – Marri – Bullich along creeks and pine plantations including recently cleared plantations and regrowth. A sub-adult killed by a Wedge-tailed Eagle in Jarrah – Marri forest on 31 Mile Road on 3 May 2004. Breeding recorded in the south-west region from May to early July.

Family Phasianidae

Pavo cristatus Linnaeus, 1758 Common Peafowl

One observed near the recreation lake (just below the dam) on 17 February 2003. An exotic species, presumably liberated or an escapee from local aviaries.

Family Anatidae

Biziura lobata (Shaw, 1796) Musk Duck

Scarce visitor. Single birds recorded on the main dam reservoir and the recreation lake on 15 September, 23 October and 6 November 1987, 28 February 1989, 11 March, 9 April, 18 June, 28 July and 6 October 1997, 15 April 2003 and 1 April 2005. This species tends to disperse during the summer and autumn periods from their breeding sites to both fresh and salt water habitats including sheltered seas.

Cygnus atratus (Latham, 1790) Black Swan

Rare visitor. One recorded on the main dam reservoir on 16 February 2007.

Anser anser (Linnaeus, 1758) Domestic Goose

Introduced exotic. Two calling near Old Chandler Dam area on 28 August 2007.

Tadorna tadornoides (Jardine and Selby, 1828) Australian Shelduck

Scarce to moderately common. Mostly in one, twos (often pairs) and family parties. Most frequent during breeding season June – August, in and around the main dam and recreation lake, the lower valley and farm dams and pastures. Most birds are evidently breeding visitors from the southern Swan Coastal Plain where they have greatly increased in the past 50 years. Not recorded in the Armadale area until the early 1980s and becoming more frequent by the early 1990s. Usually in pairs or family parties during the breeding season, then at the onset of winter rains there is a general movement inland and return coastwards in summer. Pairs observed prospecting for breeding hollows in Bungendore Park in July and August, and a female flushed from a hollow previously used by Forest Red-tailed Black Cockatoos on 26 June 2005.

Chenonetta jubata (Latham, 1802) Australian Wood Duck

At present scarce to locally common in lower parts of the catchment (i.e. main dam reservoir, recreation lake, lower Wungong valley and dams and pastures in adjacent farmlands). Usually in pairs, family parties or small flocks (up to 57). Favours pastures near farm dams, margins of creek and river pools, orchards and main dam gardens. Three pairs at Chandler Dam on 17 August 2006 and one bird on 15 September 2006 otherwise few records for upper catchment. Originally scarce or rare in the region, but in recent decades availing itself of man-made impoundments it has steadily increased its numbers in the Armadale, Bedforddale, Jarrahdale and Serpentine regions. Breeding recorded from June to November (pairs also observed prospecting for hollows in April – May). Nesting reported in large hollows of Jarrah and Marri trees in lower valley, Bungendore Park and Springfield Road area.

Anas gracilis Buller, 1869 Grey Teal

Nomadic and mainly a non-breeding visitor. Uncommon, in ones, twos and small flocks (up to 20). Main dam reservoir, recreation lake and river pools in lower valley. Flock of 20 on main dam reservoir on 18 March 2005. One breeding record from lower valley in September 1959.

Anas platyrhynchos Linnaeus, 1758 Mallard

Naturalised exotic (introduced to Perth in early 1900s), feral in small numbers in the Armadale area. Listed by B. McRoberts for recreation lake on 11 February 1986, 18 April 1988, 8 May 1988, 9 June 1988, 26 July 1994 and 7 August 1994.

Anas superciliosa Gmelin, 1789 Pacific Black Duck

Highly nomadic and erratic in distribution, timing and abundance. Moderately common in ones, twos and family parties and flocks (up to 20). Mainly on main dam reservoir, recreation lake, Chandler reservoir, creek and river pools, farm dams, flooded gravel pits, flooded ditches and inundated farmlands. In the south-west of this State there is a general movement inland in winter, and coastwards in summer as wheatbelt wetlands dry out or become too salty. Breeding reported in Bungendore Park in September 2000 (nest with 6 eggs under dense *Acacia*) and also a pair with five young on recreation lake on 6 November 1987.

Anas rhynchotis rhynchotis Latham, 1802 Australasian Shoveler

Rare visitor. A female observed by B. McRoberts at recreation lake on 25 July 1996. On the Swan Coastal Plain this species favours large and deep bodies of water especially wooded freshwater lakes.

Aythya australis (Eyton, 1838) Hardhead

Rare visitor. One observed by T. Kirkby on recreation lake on 11 January 2005 and one on 17 February 2005.

Family Podicipedidae

Tachybaptus novaehollandiae (Stephens, 1826) Australasian Grebe

Moderately common. Usually in ones and twos, occasionally in small parties (up to 7). Recorded on all open waters but preferring the smaller bodies of water especially the recreation lake, Chandler Dam, farm dams and occasionally on the main dam reservoir. Breeding reported in ? October – November, B. McRoberts noted two adults and three juveniles on recreation lake on 30 November 1996.

Family Phalacrocoracidae

Phalacrocorax carbo novaehollandiae Stephens, 1826 Great Cormorant

Scarce visitor. One recorded on recreation lake on 31 August 1997, two on the main dam reservoir on 28 December 2000 and one on the recreation lake on 10 May 2004.

Phalacrocorax sulcirostris (Brandt, 1837) Little Black Cormorant

Uncommon. Mainly in ones or twos on recreation lake. Most records in summer October – March period.

Phalacrocorax melanoleucos (Vieillot, 1817) Little Pied Cormorant

Moderately common, in one, twos and small parties (up to 5). Mainly on main dam reservoir, recreation lake, river pools e.g. in lower valley and in the Haul Road and Coronation Road areas, and farm dams.

Family Ardeidae

Ardea pacifica Latham, 1802 White-necked Heron

Scarce visitor (only three records). One in shallow water edge of recreation lake on 11 February 1986; one perched in trees edge of recreation lake on 26 September 1993; and one circling over south-eastern corner of Bungendore Park and Wungong valley on 17 November 2006.

Ardea novaehollandiae Latham, 1790 White-faced Heron

Common resident in lower parts of catchment (i.e. vicinity of main dam and lower valley), scarce or uncommon in upper sections of catchment. When feeding usually single but commonly in small groups (up to 6) when resting or roosting. Most records from recreation lake, pools in lower valley and flooded grassy paddocks. Breeding recorded from June to late August (mainly in Flooded Gums in lower valley also Bungendore Park).

Ardea alba modesta J.E. Gray, 1831 Great Egret

Rare visitor. One observed by B. McRoberts at edge of recreation lake on 17 February 1986.

Nycticorax caledonicus hilli Mathews, 1912 Rufous Night Heron

Scarce or uncommon. Single birds observed in and around the recreation lake and farm dam on Springfield Road on 22 October 1995, 30 November 1996, 21 February 1997, 15 April 2003, 9 February 2004, 27 February 2004, 11 January 2005 and 1 April 2005. This species roosts and nests colonially in wooded swamps. A nestling banded just outside our area at Armadale was recovered 25 days later at Warralong, 1323 km north (*Corella* 13: 27, 1989).

Family Threskiornithidae

Threskiornis molucca (Cuvier, 1829) Australian White Ibis

Scarce visitor. Two observed at recreation lake on 20 December 1990; 2 on 8 August 1993; 6 on irrigated pasture on Springfield Road on 26 January 1997; and one in farmland on 8 April 2004. This species was not recorded in the south-west of Western Australia until 1952 (year of eruption of several northern and eastern species of waterfowl and raptors), and in the Armadale region in 1980s. Since that time numbers increasing rapidly.

Threskiornis spinicollis (Jameson, 1835) Straw-necked Ibis

Nomadic scarce visitor. Three observed flying south over the lower Wungong valley on 6 October 1997; two at recreation lake on 8 February 1992; and small groups (up to 11) reported in adjacent farms and orchards. First reported in Perth region during the irruption of 1892, since that time it has steadily increased in numbers. Its numbers in the south-west have been augmented by irruptions from northern or eastern Australia e.g. in 1952. Also birds banded near Perth as nestlings have been recovered in northern and eastern Australia, and a nestling banded in New South Wales has been recovered here.

Family Accipitridae

Elanus caeruleus axillaris Latham, 1802 Australian Black-shouldered Kite

Scarce. One perched in a dead tree edge of recreation lake on 8 July 1990; one observed over Admiral Road entrance to Bungendore Park on 21 September 1997 and 22 February 1998; also reports from local farms and orchards.

Hamirostra isura (Gould, 1838) Square-tailed Kite

Uncommon. Most records from September to March. Usually single birds hunting low over forest canopy. One observed at a Red-eared Firetail nest in lower valley. Possibly breeding in upper parts of catchment judging from numbers of records in September – October i.e. the breeding season.

Haliastur sphenurus (Vieillot, 1818) Whistling Kite

Scarce visitor. One record of a single bird over Jarrahdale Road on 21 August 2005.

Accipiter fasciatus fasciatus (Vigors and Horsfield, 1827) Brown Goshawk

Migratory, moving north out of the south-west in the autumn and south during spring. Scarce to moderately common, most numerous during the spring – summer period from August to January (the commonest raptor in catchment during spring), least plentiful between February and July. Usually single birds, occasionally in pairs. Observed throughout the catchment including the lower valley and Bungendore Park. Favours well wooded areas. Two adults (one carrying a lizard or snake) and a immature at school area, Bungendore Park on 26 December 1993 and a male observed carrying a dead Red or Little Wattlebird at Gleneagle on 23 October 2003. Breeding recorded in August – September.

Accipiter cirrocephalus cirrocephalus (Vieillot, 1817) Collared Sparrowhawk

Scarce or uncommon resident and post-breeding nomad. Usually single, occasionally in twos. Recorded throughout the catchment including lower valley and Bungendore Park. Mainly forests and woodlands including Jarrah – Marri, Jarrah – Marri – Bullich along creeks, edge of pine plantations, main dam gardens and farmlands. One carrying a New Holland Honeyeater on Admiral Road on 8 June 2005. Possibly breeding in catchment, a pair in breeding display in lower valley on 25 September 1996; a juvenile in pine plantation on Curtis Road on 5 February 2006; and two adults with a juvenile in Bungendore Park on 7 February 2006.

Aquila morphnoides morphnoides Gould, 1841 Little Eagle

Scarce or uncommon (more numerous in the past when several pairs bred in the catchment and lower valley) now mainly winter visitors. Usually single occasionally in twos. Recorded throughout the catchment in all types of forest and woodland especially near watercourses, also open areas near granite outcrops and farmlands. Forages over all habitats. One chasing Galahs at Bedforddale on 2 March 2006. This

species was first recorded in the Perth region in 1929, at about the time of the arrival of the rabbit. Breeding reported in the lower Wungong valley in October.

Aquila audax (Latham, 1802) Wedge-tailed Eagle

Uncommon to moderately common. Usually single or in twos infrequently in threes or fours. Favours the more lightly wooded country often foraging over edges of reservoir, recreation lake and main dam gardens, farmlands and open areas around pine plantations, gravel pits and granite outcrops. Pair attacked and killed a Red-tailed Black Cockatoo near Jarrahdale on 3 March 2004 and one observed killing a sub-adult Emu in Jarrah – Marri forest on 31 Mile Road on 3 May 2004. Pair also observed drinking at a disused quarry on Grevillea Road on 31 March 2006. Breeding in the catchment in August; a nest in the lower Wungong valley was used regularly from the mid 1970s to 1992 when an adult was apparently shot. In 1994 this nest was destroyed by a devastating wildfire.

Family Falconidae

Falco berigora berigora Vigors and Horsfield, 1827 Brown Falcon

Scarce visitor. One reported by in the lower Wungong valley on 28 July and another on 6 October 1997 and one reported in Bungendore Park in January 1993 and December 1994.

Falco cenchroides cenchroides Vigors and Horsfield, 1827 Australian Kestrel

Uncommon. Most frequent in autumn – winter. Usually single birds over main dam area, farmlands and open woodlands in lower valley. Breeding recorded in the Armadale region from late August to early October.

Falco longipennis longipennis Swainson, 1837 Australian Hobby

Uncommon visitor (mostly January to July). Usually single birds, occasionally in twos. Recorded throughout the catchment e.g. Jarrahdale area, Gleneagle, Curtis Road (in Jarrah – Marri and pines), Springfield Road (farmland), Bungendore Park and lower Wungong valley.

Falco peregrinus macropus Swainson, 1837 Peregrine Falcon

Uncommon visitor, (January to June mostly August to September). Usually single but one record of two adults with two juveniles on 13 December 2005. Observed throughout the catchment e.g. Jarrahdale area, Gleneagle, Hakea Road area, main dam, farmlands and lower valley.

Family Rallidae

Porzana tabuensis (Gmelin, 1789) Spotless Crake

Scarce, although possibly more common than records suggest. One observed in a pine plantation edge of creek at Curtis Road on 21 January 1997; one on a creek line on Water Road on 3 February 2006; and one in a small patch of *Melaleuca* near water at Gleneagle on 25 February 2008.

Porphyrio porphyrio bellus Gould, 1841 Purple Swamphen

Uncommon, in ones, twos and occasionally threes. (Most records from February to June). Mainly areas around recreation lake and Chandler Dam with shallow water and grassy flats.

Gallinula tenebrosa tenebrosa Gould, 1846 Dusky Moorhen

Rare visitor. One recorded by B. McRoberts at recreation lake on 18 September 1988.

Fulica atra australis Gould, 1845 Eurasian Coot

Moderately common during the summer – autumn period December to March, especially in dry years e.g. 2003. Usually in ones or twos, occasionally in small flocks (up to 33). Main dam reservoir and recreation lake. Flock of 33 on recreation lake on 17 February 2003. Pair with two chicks on recreation pool on 23 April 2000. This species has greatly increased in numbers in the south-west over the past 100 years.

Family Turnicidae

Turnix varia varia (Latham, 1802) Painted Button-quail

Uncommon. Usually in ones, twos, occasionally in family parties (up to 6). Favours undisturbed areas of Jarrah – Marri forest, Jarrah – Marri – Bullich along watercourses, edges of granite outcrops and occasionally edges of pine plantations. Several downy hatchlings were observed on 31 Mile Road on 22 January 1997.

Family Recurvirostridae

Cladorhynchus leucocephalus (Vieillot, 1816) Banded Stilt

Rare visitor. A flock of 10 circling over main dam reservoir on 28 December 2000; also one adult walking along Albany Highway at Gleneagle on 22 March 2005 (it flew off when approached). In the Perth region and on the Swan Coastal Plain, its numbers and occurrence depend on the onset of autumn and winter rains both on the coastal plain and in the interior. It occurs on saltlakes, estuaries and also on fresh waters.

Family Laridae

Larus novaehollandiae novaehollandiae Stephens, 1826 Silver Gull

Rare visitor. One over the recreation lake on 8 August 1993.

Family Columbidae

Columba livia Gmelin, 1789 Domestic Pigeon

Feral in Armadale – Bedfordale area. Two over east corner of Bungendore Park on 20 December 1993.

Streptopelia senegalensis senegalensis (Linnaeus, 1766) Laughing Turtle-Dove

Scarce. Single birds recorded in open areas around recreation lake on 26 September and 9 December 1993, 11 January 2005 and 22 September 2006. Exotic species, released by South Perth Zoo from 1898 onwards, by 1920 common about Perth and established in the Armadale region by about 1930.

Phaps chalcoptera (Latham, 1790) Common Bronzewing

Moderately common. Usually in ones or twos occasionally in small parties (up to 15) when feeding or drinking. Recorded in all wooded habitats but attracted to areas with leguminous trees and shrubs, wattles (especially fallen seeds of *Acacia saligna*) and poison bushes *Gastrolobium* and to drinkable water. Often recorded in partly cleared farmlands and feeding on spilt grain at edge of Albany Highway. Observed drinking at recreation lake, creek pools, pools in gravel pits and on granite outcrops, at water points e.g. on 31 Mile Road and about 25 coming in to drink at small pools on Cooliabbera Spring at dusk on 10 February 1995. Breeding recorded in August and December.

Phaps elegans (Temminck, 1810) Brush Bronzewing

One unconfirmed record by B. McRoberts in the lower valley on 7 May 1985. The nearest confirmed sightings are at Keysbrook.

Family Psittacidae

Calyptorhynchus banksii naso Gould, 1837 Forest Red-tailed Black Cockatoo

Moderately common to common. Recorded throughout the catchment, including the lower valley. Usually in pairs, family groups, small flocks (up to 20) and occasionally larger aggregations (up to 115) at drinking sites and roosts. A flock of 30 – 50 was observed by P. Stone at a pool in the lower Wungong valley on 1 January 1953 and he was informed that they had been there for many years. Estimate of total population in Wungong catchment 420 birds (based on roost data). Important roost sites occur at Admiral Road, Springfield Road, Curtis Road, lower Hakea Road, Blackbutt Road, Acacia Road, Chandler Road, Rosella Road, Alpaca Road and Phillips Road. Mainly in Jarrah – Marri forest, also mixed forests with Blackbutt, Bullich, Flooded Gum and Common Sheoak. Largely vacating dry areas east of the catchment (e.g. along Brookton Highway) in the summer months as watering points dry out and returning in winter. Also local movement (since 1995) of some birds out of the catchment and west onto the coastal plain (south of Perth) in summer to feed on White Cedar (*Melia azederach*) fruits and in some places Marri seeds. Birds banded as chicks in the Wungong catchment have been recovered at Armadale, Canns Road, Kelmscott and near Byford. Feeding mainly on the seeds of Marri *Corymbia calophylla* and Jarrah *Eucalyptus marginata*; other foods include Sheoak *Allocasuarina fraseriana*, Snottygobble *Persoonia longifolia*, Blackbutt *Eucalyptus patens* and White Cedar *Melia azederach*. Breeding recorded from March to December with a peak between October and December and in some years in April – June. Nesting in large hollows of Marri, Jarrah and Bullich. Most pairs appear to breed every second year. This subspecies endemic to Western Australia.

Calyptorhynchus funereus (Shaw, 1794) Yellow-tailed Black Cockatoo

A single bird (presumably an aviary escapee) was observed grubbing for insects in a Jarrah tree on Admiral Road on 25 June 2006 and attached to a flock of Baudin's Cockatoos at same site on 13 August 2006.

Calyptorhynchus latirostris Carnaby, 1948 Carnaby's Cockatoo

Mainly a postnuptial visitor (February – June) from wheatbelt breeding sites but small numbers recorded in Wungong catchment (in all months) and some pairs breeding. Moderately common to common. Usually in pairs, family groups, small flocks (up to 50) and large flocks or aggregations (up to 250) at feeding, drinking and roost sites. Numbers sometimes probably augmented by transients. Mainly pine plantations but also Jarrah – Marri forest especially areas with understorey of *Banksia*, *Dryandra* and *Hakea*. Recorded feeding on seeding pines, Jarrah, *Hakea erinacea*, *Hakea undulata*, *Dryandra praemorsa*, nectar from Marri flowers and flesh from Persimmons. Five breeding records from Springfield Road and Gleneagle areas. Endemic to Western Australia.

Calyptorhynchus baudinii Lear, 1832 Baudin's Cockatoo

Mainly a postnuptial visitor to the catchment between March and September as part of the species migration from the deep south-west of the State to the central and northern Darling Range. Usually in pairs, family groups, small flocks (up to 100) and aggregations (up to 679) at drinking and roost sites. Flocks begin to arrive at their non-breeding traditional roosts in early February and March and swell to peak numbers between April and September. The Wungong roost site (near the main dam) is in native vegetation namely Blackbutt, Wandoo, Flooded Gum and Marri and has been used each year for the past 13 years. The largest number recorded at the roost was 679 on 27 August 1998. Favour Jarrah – Marri forest. Forages at all levels of the forest from the canopy to the ground, often feeding in the understorey on proteaceous trees and shrubs. Also forage in adjacent orchards both in trees and on the ground on dropped and fallen fruit. Feeding on the seeds of Marri, Jarrah, *Allocasuarina*, *Banksia grandis*, *Hakea erinacea*, *Hakea prostrata*, *Dryandra* spp., *Xanthorrhoea*, Apples, Pears, Pecans, Macadamia spp., also insect larvae and insects from under bark and in wood of live and dead trees, from galls and from flower spikes; nectar; buds of flowers and the juice of ripe Persimmons. Endemic to Western Australia.

Cacatua roseicapilla assimilis (Mathews, 1912) Galah

Recently established, and at present moderately common in vicinity of main dam e.g. Springfield Road, lower Admiral Road, Bungendore Park, lower Wungong valley and also Armadale region generally. Usually in ones, twos, small flocks (up to 36) and occasionally larger flocks (up to 60) at feeding or drinking sites. This cockatoo has

greatly increased its range and numbers in the past century. It was only a rare visitor to the far northern Swan Coastal Plain in the 1940's. It became established at Gingin by 1955, at Bullsbrook by 1960, Swan View by 1965, Kelmscott by the mid 1970s and Armadale by 1980. First recorded in the Wungong catchment in 1985 (in car park of lower valley), and still scarce by 1996 but breeding near the main dam by 1998. Favours farmlands and open woodlands in lower parts of catchment.

Cacatua tenuirostris (Kuhl, 1820) Eastern Long-billed Corella

Exotic species, recently established in the Perth Metro Area since the 1980s presumably from aviary escapees or liberated birds. Scarce to moderately common. Usually in ones, twos, and small flocks (up to 5). First reported near south-east corner of Bungendore Park on 15 August 2003; also a pair in a hollow at Bungendore Park on 25 August 2004; and a pair in a hollow of Marri on Springfield Road on 5 August 2005. More recently an increasingly frequent breeding visitor (August – November) to the lower catchment areas. Recorded feeding on *Erodium* in farm paddocks.

Cacatua sanguinea Gould, 1843 Little Corella

Exotic species, feral in the Armadale and Byford region since early 1980s. Nine perched in a dead tree near the Wungong Bridge crossing on South-West Highway on 18 September 1999 and two in Jarrah – Marri forest on Admiral Road on 9 September 2007.

Trichoglossus haematodus moluccanus (Gmelin, 1788) Rainbow Lorikeet

Introduced exotic, established in the Perth Metro Area since 1968 and a great increase in numbers in the Armadale region since 1990. Uncommon in ones, twos and small flocks (up to 30). First recorded in Wungong catchment at Bungendore Park on 15 June 2002. Attracted to flowering eucalypts and recent observation of four feeding on flowering *Banksia grandis* in Jarrah – Marri forest near Old Haul Road on the 23 November 2007, well inside the catchment shows their ability to forage in forest areas. Also five recorded feeding on flowering Blackbutt at Water Road on the 23 January 2008 and ten feeding on flowering *Banksia grandis* in Bungendore Park on the 24 November 2007.

Glossopsitta porphyrocephala (Dietrichsen, 1837) Purple-crowned Lorikeet

Uncommon, non-breeding autumn – winter visitor (April – July). Mainly in pairs and small flocks (up to 6), one report of a large aggregation of 100 in July 2003. Recorded in Bungendore Park also at 31 Mile Road and Gleneagle areas. Attracted to flowering Marri and Bullich.

Polytelis anthopeplus westralis Mathews, 1915 Regent Parrot

At present scarce or rare visitor to the catchment. One at the western edge of Bungendore Park in March 1990, but a regular breeding visitor (May to November) since 2003 to Jarrah – Marri forest in the Serpentine Hills area.

Platycercus zonarius semitorquatus (Quoy and Gaimard, 1830) Twenty-eight Parrot

Very common. Recorded throughout the catchment. Mainly in ones, twos or small parties (up to 18). Recorded in all wooded habitats e.g. Jarrah – Marri forest, Jarrah – Marri – Bullich, Wandoo, Sheoak and Flooded Gum woodlands, but favouring the less dense forests and especially the dam gardens, the edges of Albany Highway where attracted to fallen wheat, also partly cleared farmlands and orchards. Attracted to fruiting Apples, Pears, Almonds and White Cedar *Melia azedarach* and to flowering and seeding Marri and Balgas *Xanthorrhoea preissii*. Breeding recorded from August to October. North of this area the birds are hybrids between *Platycercus zonarius semitorquatus* and *P. z. zonarius*, agreeing with the first in size and generally the second in voice, and being variably intermediate in colouration.

Platycercus spurius (Kuhl, 1820) Red-capped Parrot

Very common to common. Recorded throughout the catchment. Usually in ones and twos, occasionally in small groups (up to 10) rarely larger groups (up to 20). All types of forest and woodland e.g. Jarrah – Marri, Jarrah – Marri – Bullich, Jarrah – Marri – Blackbutt, Flooded Gum, Wandoo, Sheoak, also dam gardens, partly cleared farmlands, orchards, regrowth areas and edges of granite outcrops. Attracted to seeding Marri and other eucalypts, *Allocasuarina fraseriana*, *Banksia grandis*, *Grevillea* spp., *Hakea* spp., *Dryandra* spp., and to fruiting Apples, Pears, Peaches, Nectarines, Plums, Almonds, Olives and White Cedar *Melia azedarach*. Breeding from August to late November. Endemic to Western Australia.

Platycercus elegans (Gmelin, 1788) Crimson Rosella

Exotic species. One recorded in lower valley on 18 January 1991 and one at edge of Bungendore Park on 9 June 1993. Probably aviary escapees.

Platycercus icterotis icterotis (Kuhl, 1820) Western Rosella

Uncommon to moderately common. Recorded throughout the catchment. Usually in pairs or small parties (up to 6). Mainly Jarrah – Marri forests and woodlands, also Flooded Gums in lower valley, mixed forest of Jarrah – Marri – Bullich and Blackbutt along creeks, Wandoo woodlands, dam gardens, orchards and weed infested

paddocks. Attracted to Plums, and other orchard fruits, to seeding exotic grasses and annuals and to flowering Marri. Breeding from September to November. Endemic to Western Australia.

Neophema elegans (Gould, 1837) Elegant Parrot

Uncommon. Mainly in ones and twos, rarely flocks (up to 10). This species colonised open areas in the northern Darling Range in the 1960s. In Wungong catchment favours open areas within the Jarrah – Marri forest, edges of watercourses and granite outcrops, gavel pits, gardens, partly cleared farmlands and school oval.

Family Cuculidae

Cuculus pallidus (Latham, 1802) Pallid Cuckoo

Scarce visitor, only three records. One edge of Bungendore Park in May 1994, one calling at Admiral Road near school on 27 November 1996 and one near same place on 21 August 2003. This species is a migrant arriving in the south-west between the end of March and early July and leaving between early October and January.

Cacomantis flabelliformis (Latham, 1802) Fan-tailed Cuckoo

Moderately common visitor. Spending the summer months in the far south of the State, moving north from April to June and returning from September to November. Recorded throughout the catchment. Most records are of single birds occasionally in twos, once four together on 28 July 1997. All wooded habitats including Jarrah – Marri forest, Jarrah – Marri – Bullich along creeks, Flooded Gums, Wandoo woodland, dam gardens, edges of pine plantations and granite outcrops. Regularly calling from May – September, often at night. Recorded parasitising Brown Thornbill and White-browed Scrubwren.

Chrysococcyx basalis (Horsfield, 1821) Horsfield's Bronze Cuckoo

Status uncertain, probably an uncommon visitor. A number of unconfirmed records from lower Wungong valley between 1985 and 1997.

Chrysococcyx lucidus plagosus (Latham, 1802) Shining Bronze Cuckoo

Moderately common throughout the catchment. Mainly a visitor arriving between mid to late July and early September and leaving between late November and early

January. All wooded habitats including Jarrah – Marri forest, Jarrah – Marri – Bullich along creeks, Wandoo woodlands, areas of Flooded Gum and Blackbutt, dam gardens and heaths and shrublands. Breeding recorded from late August to December (mainly October), parasitising Western Gerygone, Brown Thornbill, Western Thornbill, Yellow-rumped Thornbill, White-browed Scrubwren and Splendid Fairy-wren.

Family Strigidae

Ninox novaeseelandiae boobook (Latham, 1802) Boobook Owl

Rare or uncommon. Usually single occasionally in twos. Most birds are probably passage migrants (March to May and July to October) but possibly also small numbers resident. Recorded near main dam, Bungendore Park, lower Springfield Road, Curtis Road and around Jarrahdale. All wooded habitats especially Jarrah – Marri forest. One roosting in *Dryandra sessilis* on 5 October 2007. Judging from behaviour probably breeding in a hollow of a large Marri on lower Springfield Road in October 2005.

Family Tytonidae

Tyto alba delicatula (Gould, 1837) Barn Owl

Rare visitor. One heard in Wandoo woodland on west side of Bungendore Park in March 1993 and several feathers found in the same area in July – August 1994.

Family Podargidae

Podargus strigoides brachypterus Gould, 1841 Tawny Frogmouth

Rare or uncommon. Recorded in the lower Wungong valley in January and October 1987, Bungendore Park in August 1994, February 1995 and a fledgling found on the ground on 30 November 1995.

Family Aegothelidae

Aegotheles cristatus cristatus (Shaw, 1790) Australian Owlet-nightjar

Uncommon. Recorded throughout the catchment e.g. around main dam, Bungendore Park, Curtis Road, Gleneagle and Old Haul Road. Most birds are possibly only summer – autumn visitors to the catchment, recorded from January to October with most records from February to September. Mainly Jarrah – Marri forest also Wandoo

and Jarrah – Sheoak woodland and often near pools or creeklines. Noted calling in February and September.

Family Apodidae

Apus pacificus pacificus (Latham, 1803) Fork-tailed Swift

Rare visitor from Northern Hemisphere especially before and after tropical cyclones. Hundreds flying east over Bungendore Park during a storm on 2 April 1990.

Family Halcyonidae

Dacelo novaeguineae novaeguineae (Hermann, 1783) Laughing Kookaburra

Naturalised exotic (hundreds of Victorian birds released from the South Perth Zoo from 1897 to 1912). Moderately common to common throughout the catchment including the lower valley. Mainly in ones, twos or family parties. All forests and woodlands including Jarrah – Marri, Jarrah – Marri – Bullich, Wandoo and Flooded Gum, also orchards and partly cleared farmlands. Observed feeding on charred lizards after the devastating fire in Wungong and Bungendore Park in December 1994. Breeding recorded from August to November.

Todiramphus sanctus sanctus (Vigors and Horsfield, 1827) Sacred Kingfisher

Moderately common throughout the catchment. Mainly a spring – summer breeding visitor and passage migrant, arriving mainly in late August – September and leaving in February (one July record). Usually in ones and twos. Recorded in all types of forest and woodland especially near water (including main dam gardens, pools on watercourses and farm dams) also edges of granite outcrops. Birds from the south-west of Western Australia wintering in northern Australia and eastern Indonesia. Breeding reported in October and November.

Family Meropidae

Merops ornatus Latham, 1802 Rainbow Bee-eater

Uncommon to moderately common breeding visitor and passage migrant. Mainly arriving in late September or early October and leaving in late January or February – March. Usually in ones and twos (pairs) when breeding and in small flocks (up to 30) after breeding and during northward passage (e.g. 30 over lower Wungong valley on 29 January 1997). Favours open areas around main dam, recreation lake, 31 Mile Road, Gleneagle and edges of watercourses and granite outcrops and open parts of

lower valley. Breeding from late October to early December. In Bungendore Park burrows were dug into fine gravel and P. Slater reported five burrows with young in lower valley on 28 December 1959. Earliest arrival dates 6 October 2003 and 8 October 2004.

Family Climacteridae

Climacteris rufa Gould, 1841 Rufous Treecreeper

Formerly moderately common but now generally uncommon. Usually in ones, twos (often pairs) or family parties. Recorded in most parts of the catchment but no records for lower valley. Favours areas that are not frequently burnt (e.g. parts of Bungendore Park, 31 Mile Road, Gleneagle, Todd Road, Haul Road areas) its recent decline in parts of catchment probably due to December 1994 wildfire. Mainly in Jarrah – Marri forest also Jarrah – Marri – Sheoak, Wandoo woodland and occasionally Jarrah – Marri – Bullich. Breeding recorded in November. This species is now extinct or declining in much of the Darling Range. In the Perth region, Swan River district it was common in the early 1840s (J. Gilbert) but scarce by 1890 (O.H. Lipfert). In the Darling Range it was still common in 1920 (W.B. Alexander) but soon after began to disappear at Bickley (W.H. Loring) and around Wooroloo and Collie.

Family Maluridae

Malurus splendens splendens (Quoy and Gaimard, 1830) Splendid Fairy-wren

Common to moderately common throughout the catchment including the lower valley. Usually in pairs and family parties. Favours all types of dense vegetation, especially waterside thickets, thickets of *Dryandra sessilis*, low prickly *Acacia* and *Hakea* and *Calothamnus* heaths; forests and woodlands with dense understorey, main dam gardens; areas of regrowth; and dense thickets of Peppermint, Teatree and Paperbark; occasionally also in pine plantations. Breeding from August to November. Parasitised by Shinning Bronze Cuckoo. Formerly the most common malurid in the catchment but now *M. elegans* occurs in about equal numbers.

Malurus elegans Gould, 1837 Red-winged Fairy-wren

Formerly rare or uncommon but now moderately common in pairs and family groups. Recorded in most parts of the catchment e.g. lower Wungong valley, main dam gardens, Bungendore Park, Curtis Road, 31 Mile Road, Kunzea Road, Hakea Road, Gleneagle, Chandler Road, Kooka Road, Alcoa Road, Chandler Dam, Formation Road, lower Admiral Road, Water Road, Bee Farm Road, Pumping Station Road, Cobiatic Road, Rosella Road and Jarrah Road. All types of dense vegetation especially creekside thickets but also dense understorey of Jarrah – Marri forest, Jarrah – Marri –

Blackbutt, Jarrah – Marri – Bullich, dense *Agonis* and *Melaleuca* thickets, heaths of *Hakea* and *Calothamnus* and areas of regrowth. Formerly patchily distributed and largely confined to creekside thickets but since the mid 1990s this species has become more numerous in the catchment especially in forest understorey and is in about equal numbers to *M. splendens*. Recorded feeding on red meat ants *Iridomyrmex purpureus*. Breeding from September to December. Also two fledglings (one still unable to fly) being fed by adults in March 2008 at Coronation Road. In the south-west this species is uncommon and patchily distributed north of the Wungong River and became extinct on much of the Swan Coastal Plain by the early 1900s. Endemic to Western Australia.

Family Pardalotidae

Pardalotus punctatus punctatus (Shaw, 1792) Spotted Pardalote

Moderately common to common throughout the catchment. Usually in ones, twos and occasionally in small groups (up to 10). Partly migratory with birds dispersing northwards from the deep south-west of the State in late summer and autumn and returning in late winter or spring. Favours the canopy of forests and woodlands especially Jarrah, Marri, Wandoo, Bullich, Blackbutt and Flooded Gum along watercourses. Attracted to flowering eucalypts. Breeding reported in lower Wungong valley and at Curtis Road in August – September. Burrows dug into clay or sandy loams in creek banks and edges of roads.

Pardalotus striatus westraliensis Mathews, 1912 Striated Pardalote

Common to very common throughout the catchment including lower Wungong valley. Usually in ones and twos, commonly in small flocks (up to 10). Resident and passage migrant, vacating much of the south-west of the State in autumn and winter and migrating north and north-east between late February and May. Most birds in Wungong catchment leave the area in April – May and return in September – October. Favours the canopy of eucalypts especially Jarrah – Marri forest, Wandoo, Bullich, Flooded Gum, Blackbutt (also exotic eucalypts). Attracted to flowering Marri. Breeding from August to December mainly in hollows of Wandoo, Marri and Jarrah.

Family Acanthizidae

Sericornis frontalis maculatus Gould, 1847 White-browed Scrubwren

Moderately common in pairs and family parties. Recorded throughout the catchment including the lower valley. Favours dense vegetation along watercourses, forest understorey, heaths, thickets of *Dryandra*, *Melaleuca*, *Calothamnus* and *Agonis*,

regrowth areas, main dam gardens and mixed Jarrah – Marri and pines. Breeding from July to November. Parasitised by Fan-tailed Cuckoo.

Smicrornis brevirostris (Gould, 1838) Weebill

Uncommon to locally moderately common. Usually in ones, twos or small groups (up to 5). Most numerous in areas with Wandoo, Bullich, Blackbutt and Flooded Gums but occasionally in pure Jarrah – Marri forest and also noted in Spotted Gums near Peacock Road. Feeding mainly in the canopy of eucalypt forests and woodlands. Breeding reported in the south-west from July to December.

Gerygone fusca fusca (Gould, 1838) Western Gerygone

Common throughout the catchment including the lower valley. Usually in ones and twos. Resident, autumn – winter visitor and passage migrant. Most birds from the south-west vacating the colder parts of their range and moving northwards to Gascoyne and Pilbara regions from late March to April – May and returning in August – September. Favours the canopy of eucalypts especially Jarrah, Marri, Wandoo, Bullich, Flooded Gum and Blackbutt occasionally also in Sheoak and Paperbarks. Breeding reported in lower Wungong valley in October – November.

Acanthiza apicalis Gould, 1847 Broad-tailed Thornbill

Moderately common throughout the catchment and lower Wungong valley. Mainly in pairs or family parties. Recorded in most kinds of dense vegetation especially creekside thickets, dense understorey of forests and woodlands including Jarrah – Marri, Wandoo, Bullich, Sheoak, Blackbutt and Flooded Gum, thickets of *Dryandra sessilis*, *Melaleuca* and *Agonis*, heaths at edges of granite outcrops, main dam gardens, regrowth areas and edges of pine plantations. Breeding from August to November.

Acanthiza inornata Gould, 1841 Western Thornbill

Common to moderately common throughout the catchment including the lower Wungong valley. Mainly in pairs and family groups, rarely in flocks or loose aggregations (up to 21) at food rich sites. Recorded in all wooded habitats including areas of Jarrah – Marri forest, Jarrah – Marri – Sheoak, Bullich, Wandoo, Flooded Gum, Blackbutt, Banksia and edges of pine plantations. Attracted to flowering *Hakea* spp. and *Calothamnus*. Forage at all levels of forest from canopy to ground. Breeding recorded in September – October. Parasitised by Shining Bronze Cuckoo. Endemic to Western Australia.

Acanthiza chrysorrhoa (Quoy and Gaimard, 1830) Yellow-rumped Thornbill

Uncommon to moderately common. Mainly in pairs or family parties (up to 8). Favours partly cleared or more open parts of the catchment e.g. around main dam and recreation lake gardens, lower Wungong valley, parts of Bungendore Park, Curtis Road, Chandler Dam area, edges of pine plantations, open areas within Jarrah – Marri forest and Wandoo and Sheoak woodlands, granite outcrops, partly cleared farmlands, orchards and school grounds. Often feeding with Western Thornbills. Breeding recorded in October and December.

Family Meliphagidae

Lichmera indistincta indistincta (Vigors and Horsfield, 1827) Brown Honeyeater

Common throughout the catchment and lower Wungong valley. In ones, twos and small flocks (up to 10). Favours thickets and heaths along creeks and around granite outcrops, thickets of *Dryandra sessilis* and *Calothamnus*, also gardens around main dam and around local farms and houses. Attracted to flowering trees and shrubs especially *Dryandra sessilis*, *D. praemorsa*, *Calothamnus* spp., *Hakea* spp., *Grevillea* spp., *Lambertia* spp., *Melaleuca raphiophylla*, *Eucalyptus wandoo*, *Corymbia calophylla*, *Nuytsia floribunda*, and *Xanthorrhoea preissii*. Breeding from September to November.

Lichenostomus virescens (Vieillot, 1817) Singing Honeyeater

Scarce or uncommon. Ones and twos. Recorded in the lower Wungong valley (mainly in derelict orchard), around edges of Bungendore Park (lower Admiral Road and school area) and around main dam – recreation lake gardens. Few forest records except for one in Jarrah – Marri forest in Bungendore Park on 4 January 1993 and one in Wandoo woodland west side of park on 1 February 1993. Attracted to flowering *Calothamnus*.

Lichenostomus ornatus (Gould, 1838) Yellow-plumed Honeyeater

Scarce. Few records for catchment; single birds recorded in the lower Wungong valley on 7 February 1992 and 17 October 1994; two in flowering Marri in Bungendore Park on 7 March 1994; one observed in school area Bungendore Park on 13 October 1994 and one in flowering *Calothamnus* near same site on 25 February 2004. This species is almost extinct on the Swan Coastal Plain and is becoming rare and local along the Darling Range near Perth. It generally favours Wandoo woodland along the range.

Melithreptus brevirostris leucogenys Milligan, 1903 Brown-headed Honeyeater

Scarce. Small flock flying over Bungendore Park on 29 October 1994; single birds recorded at Gleneagle on 22 January 1997 and 21 November 2003, the lower Wungong valley on 30 March 2005 and Bungendore Park on 23 May 2006. Mainly in Wandoo woodlands also Jarrah – Marri – Bullich on creek line. This species is somewhat nomadic, and is a casual visitor mainly in Wandoo woodlands along the Darling Scarp from the Helena River south to Harvey River.

Melithreptus chloropsis Gould, 1848 Western White-naped Honeyeater

Moderately common to common throughout the catchment and the lower Wungong valley. Usually in ones, twos or family parties (up to 5). All kinds of forest and woodland including Jarrah – Marri, Wandoo, Flooded Gum, Bullich, Blackbutt, Sheoak, recreation lake gardens and pines. Attracted to flowering eucalypts especially Jarrah, Marri, Wandoo and Blackbutt also flowering *Banksia grandis*, *Dryandra praemorsa*, *D. sessilis*, *Calothamnus* and Mistletoe. Recorded gleaning for insects in *Banksia grandis*. Breeding recorded in December. This species is declining on the Swan Coastal Plain. Endemic to Western Australia.

Phylidonyris novaehollandiae (Latham, 1790) New Holland Honeyeater

Common to very common throughout the catchment and the lower valley. Usually in small parties (up to 10) occasionally in large loose flocks (up to 30). Mainly thickets of *Dryandra sessilis*, dense *Leptospermum* along creeks, heaths especially with *Calothamnus*, *Hakea* and *Grevillea*, dense Sheoak, recreation lake and house gardens, pine plantations, derelict orchards, partly cleared farmlands and Jarrah – Marri regrowth areas. Attracted to flowering *Dryandra sessilis*, *Banksia grandis*, *Grevillea* spp., *Hakea* spp., *Calothamnus* and Marri *Corymbia calophylla*. Breeding recorded in July and September, often nesting in *Dryandra sessilis* thickets.

Phylidonyris nigra gouldii (Schlegel, 1872) White-cheeked Honeyeater

Uncommon throughout most of the catchment but locally moderately common in parts of Bungendore Park. Usually in pairs or small flocks (up to 20). In Bungendore Park favouring thickets of *Dryandra sessilis* also *Allocasuarina* woodland and heaths in Wandoo areas. Attracted to flowering *Dryandra sessilis*, *Calothamnus* and *Corymbia calophylla*. Breeding recorded in May, June, July and September often nesting in *Dryandra sessilis*.

Phylidonyris melanops (Latham, 1802) Tawny-crowned Honeyeater

Scarce or uncommon. Somewhat nomadic and patchily distributed. Usually in ones, twos (pairs) and small flocks (up to 10). Recorded in Bungendore Park and in Springfield Road, 31 Mile Road, Gleneagle, Kunzea Road, Chandler Road, Jarrah Road and Cobiac Road areas. Generally favours open areas in the forest and heaths, also edges of cleared pine plantations and heaths around granite outcrops. Attracted to flowering *Dryandra praemorsa* and *Calothamnus*. Breeding reported in Bungendore Park in November 1994 and at Gleneagle in October 2007.

Acanthorhynchus superciliosus Gould, 1837 Western Spinebill

Common to very common. Recorded throughout the catchment and lower Wungong valley. Usually in ones or twos, rarely in small groups (up to 10). Mainly understorey of Jarrah – Marri forest especially areas with good stands of *Banksia* and *Dryandra sessilis*, also creekside thickets, stands of Bullich and Sheoak, regrowth areas and heaths. Attracted to flowering *Banksia grandis*, *Banksia attenuata*, *Dryandra sessilis*, *D. praemorsa*, *Melaleuca*, *Grevillea wilsonii*, *Calothamnus affinis*, *Xanthorrhoea preissii*, *Adenanthos* and *Eucalyptus* (including *E. patens*). Breeding in late July also September to November. Most nests are in *Banksia*. Parasitised by Pallid Cuckoo. Endemic to Western Australia.

Manorina flavigula (Gould, 1840) Yellow-throated Miner

Formerly scarce or rare now locally extinct. A small flock was listed as resident in Wandoo woodland in lower Wungong valley by P. Slater in 1959 but no records since that time. Breeding in lower valley in August – September 1959 (P. Slater). In the Perth region this species is very patchily distributed on the Swan Coastal Plain. It has declined greatly since European settlement, generally unable to cope with partial clearing of its habitat.

Anthochaera lunulata Gould, 1838 Western Little Wattlebird

Locally moderately common throughout the catchment and lower Wungong valley. Usually in ones or twos, often small parties (up to 15) and occasionally larger aggregations (up to 40) at food rich sites (e.g. 40 feeding in *Banksia littoralis* on Todd Road on 16 July 2006, 30 in flowering *Calothamnus* on Old Haul Road on 18 September 2007 and also noteworthy was a group of 50 feeding on rotting Persimmons in a Bedforddale orchard on 31 March 2004). Recorded in all kinds of forest and woodland especially areas with *Dryandra sessilis*, *D. praemorsa*, *Calothamnus*, mixed Jarrah – Marri and pines (e.g. Curtis Road), areas of *Banksia*, Wandoo, Blackbutt, Bullich, thickets along creeks also orchards. Attracted to flowering *Dryandra sessilis*, *D. praemorsa*, *Banksia grandis*, *B. littoralis*, *Calothamnus*, *Eucalyptus wandoo*, *E. patens*, *Corymbia calophylla* and *Xanthorrhoea*

preissii. Also recorded feeding on flying termites. Breeding reported in July, August and September. Endemic to Western Australia.

Anthochaera carunculata (White, 1790) Red Wattlebird

Nomadic or partly migratory in the south-west. Uncommon to moderately common. Recorded throughout the catchment and the lower Wungong valley. Usually in ones, twos or small roving flocks (up to 15), once a group of 30 feeding on Persimmons in local orchard. Mainly in Jarrah – Marri forest and woodland especially areas with *Banksia*, also Wandoo woodland, areas of Bullich, Blackbutt, Flooded Gum, and Sheoak, stands of exotic eucalypts, edges of pine plantations, heaths, recreation lake gardens, partly cleared farmlands and orchards. Attracted to flowering *Banksia grandis*, *Dryandra praemorsa*, *Corymbia calophylla*, *Eucalyptus wandoo*, *E. cladocalyx*, *E. robusta*, *Xanthorrhoea preissii* the flesh of Persimmons and also noted feeding on black flying ants. Breeding recorded in August and November – December. Parasitised by Pallid Cuckoo.

Family Petroicidae

Petroica multicolor campbelli Sharpe, 1898 Scarlet Robin

Common throughout the catchment and lower Wungong valley. Usually in ones or twos (often pairs). Recorded in all wooded habitats especially Jarrah – Marri forest and woodland, Wandoo woodland, stands of Bullich and Flooded Gum, edges of forest, recreation lake gardens, road verges, partly cleared farmlands, edges of pine plantations, orchards and forest regrowth. Observed feeding on black flying ants on Admiral Road at Bungendore Park on 3 April 2007. Breeding from August to November.

Petroica goodenovii (Vigors and Horsfield, 1827) Red-capped Robin

Rare visitor. Two males at Red Gum Loop, Bungendore Park in March 1994; pair at Christmas Tree carpark, Bungendore Park in January 1995; and two noted in Bungendore Park on 31 December 1998. This species is partly migratory in the south-west of Western Australia. Birds from the arid and semi-arid zones moving towards the west coast in late summer and early autumn and usually returning in late autumn or winter, but sometimes pairs remaining to breed.

Eopsaltria australis griseogularis Gould, 1838 Western Yellow Robin

Uncommon. Usually in ones and twos. Recorded throughout the catchment and lower valley (e.g. lower Wungong valley area, Bungendore Park, Curtis Road, Todd

Road, Hakea Road, 31 Mile Road, Gleneagle, Jarrah Road, Old Haul Road and Seldom Seen areas). Mainly in Jarrah – Marri forest with dense understorey of *Dryandra* and *Banksia*, also Wandoo woodlands, stands of Bullich, dense regrowth and recreation lake gardens. Observed feeding on black flying ants at Admiral Road entrance to Bungendore Park on 3 April 2007. This species is endemic to the south-west of Western Australia.

Eopsaltria georgiana (Quoy and Gaimard, 1830) White-breasted Robin

Locally moderately common but generally uncommon. Usually in ones and twos. Recorded throughout the catchment (e.g. lower Wungong valley, Bungendore Park, Water Road, Curtis Road, Todd Road, 31 Mile Road, Gleneagle, Bee Farm Road, Kunzea Road, Chandler Dam, Pumping Station Road and White Gum Road). Mainly in dense understorey of Jarrah – Marri forest, also stands of Bullich, Blackbutt and Flooded Gum, dense creekside vegetation including *Leptospermum*, *Agonis* and *Melaleuca* thickets, mixed Jarrah – Marri and pines (e.g. on Curtis Road) and dense regrowth. This species is endemic to Western Australia and previously occupied gullies north to the Helena River but no longer occurs in the northern parts of the Darling Range. The Wungong population represents the northern-most limit on the Darling Range and its survival in this area depends on the management of the catchment and especially the riparian vegetation.

Family Neosittidae

Daphoenositta chrysoptera pileata (Gould) Varied Sittella

Uncommon. Usually in pairs or small roving flocks (up to 8), once a group of 15 in lower Wungong valley and one record of 20 in Bungendore Park. Recorded throughout the catchment and lower Wungong valley. Mainly in Jarrah – Marri forest, also Wandoo woodland and stands of Bullich and Flooded Gum. Apparent decline in numbers in lower Wungong valley and Bungendore Park after the 1994 wildfire. Breeding reported in September and November.

Family Pachycephalidae

Pachycephala pectoralis fuliginosa Vigors and Horsfield, 1827 Golden Whistler

Common throughout the catchment and lower Wungong valley. Usually in ones and twos. Mainly in understorey of forests and woodlands including areas of Jarrah – Marri, Wandoo, Flooded Gum, Blackbutt and Bullich also dense creekside thickets including those of *Dryandra sessilis*, *Calothamnus* and *Melaleuca*, edges of pine plantations, heaths, areas of dense regrowth and recreation lake gardens. Breeding recorded from October to December.

Pachycephala rufiventris rufiventris (Latham, 1802) Rufous Whistler

Uncommon. Recorded throughout the catchment but most frequent in lower Wungong valley. Usually single occasionally in twos. Favours the more open areas of forests and woodlands, e.g. Flooded Gum areas in lower valley, open stands of Jarrah – Marri and Wandoo, edges of pine plantations and partly cleared farmlands. Recorded feeding on large black flying ants at Admiral Road entrance to Bungendore Park on 30 April 2007. Breeding from October to December.

Colluricincla harmonica rufiventris Gould, 1841 Grey-Shrike-thrush

Moderately common throughout the catchment and lower Wungong valley. Usually single commonly in twos (once a group of 7 feeding on ground possibly on emerging termites). Recorded in all types of forest and woodland including Jarrah – Marri, Wandoo, Sheoak, Bullich, Blackbutt, Flooded Gum also thickets and heaths, edges of pine plantations, areas of regrowth and recreation lake gardens. Recorded feeding on black flying ants at Admiral Road entrance to Bungendore Park on 3 April 2007. Breeding reported in the region from late August to December.

Family Dicruridae

Myiagra inquieta inquieta (Latham, 1802) Restless Flycatcher

Rare visitor. One recorded in Wandoo woodland in lower Wungong valley on 3 July 1986 and one in Bullich woodland on Bee Farm Road on 20 August 2007.

Rhipidura fuliginosa preissi Cabanis, 1851 Grey Fantail

Common resident, winter visitor and passage migrant. This species tends to vacate the coldest parts of the south-west in autumn and winter. Recorded throughout the catchment and lower Wungong valley. Usually in ones, twos and small groups (up to 15). Favours the understorey of all forests and woodlands, also creekside thickets, recreation lake gardens, edges of pine plantations, partly cleared farmlands and orchards. Occasionally feeding in mixed groups with Western Thornbills, Golden Whistlers, Western Gerygones and Grey-breasted White-eyes. Breeding from August to December.

Rhipidura leucephrys leucephrys (Latham, 1802) Willie Wagtail

Uncommon. Recorded in lower Wungong valley and Bungendore Park. A total of eight records (mostly in winter) from the lower valley from 1985 – 1995 and one report from Bungendore Park on 23 September 2007. Most birds are probably winter

visitors. Generally favours lightly wooded country including farmlands and the vicinity of water.

Grallina cyanoleuca (Latham, 1802) Magpie Lark

Scarce to uncommon. Usually in ones or twos occasionally in groups (up to 4). Mainly open areas in and around the catchment including the dam gardens, farmlands, orchards and school oval. Breeding recorded in August and October.

Family Campephagidae

Coracina novaehollandiae novaehollandiae (Gmelin, 1789) Black-faced Cuckoo-shrike

Uncommon, breeding visitor and passage migrant. Many birds are no-doubt winter visitors and migrants from the deep south-west. Recorded throughout the catchment and lower Wungong valley. Usually in ones and twos. Found in all wooded habitats, but favours open woodlands (e.g. open Jarrah – Marri, Wandoo, Flooded Gum and Sheoak), also partly cleared farmlands and orchards. Breeding recorded from September to November.

Lalage tricolor (Swainson, 1825) White-winged Triller

Irregular visitor. A male recorded in lower Wungong valley on 18 August 1987; moderately common in ones, twos and small parties in Bungendore Park from October 1995 to January 1996; two observed (in Jarrah – Marri forest) at Todd Road, Gleneagle area on 4 February 2005; and a female in Bungendore Park on 11 February 2005. Favours lightly wooded country and open areas or partly cleared forests. Breeding reported in Bungendore Park in November.

Family Artamidae

Artamus cinereus Vieillot, 1817 Black-faced Woodswallow

Uncommon. Most records are from the lower Wungong valley, Bungendore Park and on Coronation Road (in central catchment area). Usually in ones, twos and small flocks (up to 6). Mainly open or sparsely wooded country especially Wandoo woodland and partly cleared farmlands. In the lower Wungong valley this species and the Dusky Woodswallow breed close together. Breeding recorded from late August to November.

Artamus cyanopterus (Latham, 1802) Dusky Woodswallow

Uncommon to locally moderately common throughout the catchment and lower Wungong valley. Usually in ones, twos or small parties (up to 17), occasionally in larger flocks (up to 50). Mainly in Jarrah – Marri forest and Wandoo woodland, also areas of Bullich, Blackbutt, swampy areas (e.g. along Jarrah Road) and edges of creeks. This species is partly migratory in the south-west, tending to flock in autumn and move northwards. Breeding reported from September to November, mainly nesting in Wandoo and Jarrah.

Family Cracticidae

Cracticus torquatus torquatus (Latham, 1802) Grey Butcherbird

Uncommon. Usually single occasionally in twos. Mainly in open woodland in lower Wungong valley, main dam gardens and car parks, open Jarrah – Marri in Bungendore Park, Admiral Road, Mcallister Road, Hakea Road, 31 Mile Road, Frollet Road and Jarrah Road areas. Originally this species was absent from the Darling Range. Clearing of parts of the forest has enabled it to colonise some of the more open areas in the range.

Cracticus tibicen dorsalis (Campbell, 1894) White-backed Magpie

Moderately common to common. In ones, twos and small parties (up to 11). Mainly in open parts of the catchment and lower valley including open woodlands (e.g. Wandoo in lower valley), open Jarrah – Marri, dam gardens, roadside verges, edges of pine and exotic eucalypt plantations, tracks, granite outcrops, gavel pits, Chandler Dam area, partly cleared farmlands, orchards and open regrowth areas. Breeding from July to October. This subspecies is endemic to Western Australia.

Strepera versicolor plumbea Gould, 1846 Grey Currawong

Scarce in the lower Wungong valley and Bungendore Park areas; moderately common in the relatively undisturbed upper parts of the catchment (e.g. Water Road, Curtis Road, 31 Mile Road, Gleneagle, Kite Road, Chandler Road, Coronation Road, Jarrahdale Road and Old Haul Road). Mainly ones and twos, occasionally small parties or loose aggregations (up to 27) at food rich sites (e.g. spilt grain at edge of Albany Highway). Most types of forest and woodland also harvested pine plantations. A total of 30 single birds were counted feeding on verge of Albany Highway between Admiral Road and 31 Mile Road on 4 April 2005, and 27 in Gleneagle area on Albany Highway feeding on spilt grain on 27 July 2004. Judging from records more frequent along Albany Highway verges in winter.

Family Corvidae

Corvus coronoides perplexus Mathews, 1912 Australian Raven

Common throughout the catchment and lower Wungong valley. Usually in ones or twos, commonly in small parties or flocks (up to 30) at roosts or feeding sites. Observed in all habitats. Attracted to road killed and fire killed animals and spilt grain. Generally favouring lightly wooded country, especially in vicinity of main roads and farmlands. Observed attacking a road injured Australian Ringneck at Gleneagle on 3 March 2006, and feeding on a dead Emu near same place on 23 July 2007. Six roosting in a Marri on upper Springfield Road in January 2005. Breeding from mid July to late October.

Family Hirundinidae

Hirundo neoxena Gould, 1842 Welcome Swallow

Scarce. Only recorded in vicinity of main dam lower Wungong valley and around Bungendore Park. Ones, twos and small groups (up to 8). Mostly observed hawking for insects over water, dam and forest edges. Breeding from July to September (all breeding records from the lower valley).

Hirundo nigricans nigricans Vieillot, 1817 Tree Martin

Migrant. Uncommon to very common (most numerous during the summer months and during their northwards passage in early autumn, less frequent in winter). Usually in pairs or small parties when breeding, larger aggregations (sometimes thousands, e.g. about 2000 at Gleneagle moving south-west on 30 January 2004) in off season. Recorded in and over all types of forest and woodland including Jarrah – Marri, Wandoo, Bullich, Flooded Gum, Blackbutt and over dam gardens and farmlands. A flock of 40 observed bathing in rain drops on leaves in tree canopy at 31 Mile Road. Breeding from August to November.

Family Zosteropidae

Zosterops lateralis gouldi Bonaparte, 1850 Grey-breasted White-eye

Nomadic. Uncommon to very common. Recorded throughout the catchment and lower Wungong valley. Usually single or in pairs during the breeding season and small flocks (up to 50) and occasionally much larger flocks (up to 200) in off season at food rich sites. Mainly thickets along creeks, heaths around granite outcrops, dam gardens, Wandoo woodland, orchards, farmlands and regrowth areas. Attracted to flowering *Calothamnus*, *Eucalyptus* (including *E. patens*), *Banksia* and *Dryandra* also

fruiting *Ficus*, Blackberries and Persimmons. Also recorded feeding on flying termites. Breeding from September to November.

Family Sylviidae

Acrocephalus australis gouldi (Dubois, 1901) Australian Reed Warbler

Scarce visitor. Ones and twos recorded in *Typha* beds in recreation lake on 23 September 1994, 17 October 1994 and 5 January 1997. This species breeds in the south-west from October to mid January.

Cincloramphus mathewsi Iredale, 1911 Rufous Songlark

Rare visitor. One recorded in open Jarrah – Marri forest on 31 Mile Road on 15 January 2008.

Family Dicaeidae

Dicaeum hirundinaceum hirundinaceum (Shaw, 1792) Mistletoebird

Nomadic. Scarce or uncommon. In ones, twos and threes. Most records are from the dam gardens and lower Wungong valley areas, occasionally in orchards and forests including Jarrah – Marri. Attracted to flowering mistletoe and to fruiting *Ficus*.

Family Passeridae

Stagonopleura oculata (Quoy and Gaimard, 1830) Red-eared Firetail

Generally scarce but locally moderately common (e.g. lower Wungong valley area). In ones, twos or small flocks. Mainly densely vegetated creeks (especially with *Lepidosperma* sedges), dense heaths, *Allocasuarina* thickets and grassed areas around main dam. Observed feeding on *Lepidosperma* seeds and seeds from uncut lawns below dam. In 1958 P. Slater found one nest in the lower valley and one party of birds; in 1959 he located four nests and in 1960 24 occupied nests were found. This species ranges north in the Darling Range to Glen Forest but is scarce or rare north of the Wungong. It is now also rare or extinct on the Swan Coastal Plain. Endemic to Western Australia.

Lonchura castaneothorax (Gould, 1837) Chestnut-breasted Mannikin

Exotic species, established in parts of the Swan Coastal Plain since 1970. One recorded in lower Wungong valley on 7 May 1985 and one on 11 February 1986.

Family Fringillidae

Serinus canaria (Linnaeus, 1758) Canary

Exotic. One observed at recreation lake on 26 August 2007.

Family Motacillidae

Anthus australis australis Vieillot, 1818 Australian Pipit

Rare visitor. One in recently cleared pine plantation at Gleneagle on 11 July 2005 and six foraging in open harvested pine plantation at Gleneagle on 11 May 2006.

DISCUSSION

A total of 124 species (71 non-passerine and 53 passerine) have been recorded from the Wungong catchment. Considering the huge amount of time spent in the catchment we feel that all of the resident species have been recorded, however more work would no-doubt add other occasional visitors and vagrants to the list. Dell (1983) lists a total of 100 species (51 non-passerine and 49 passerine) for the entire Darling Scarp. The Wungong list includes twelve exotic species but even excluding those the catchment contains a very rich assemblage of birds. This richness is partly due to its position on the northern Darling Range (i.e. covering the transition zone from the Swan Coastal Plain, the Darling Scarp and the Darling Range plateau) and its wide variety of habitats both natural and disturbed.

The catchment supports a number of species of particular importance namely: Forest Red-tailed Black Cockatoo, Baudin's Cockatoo, Carnaby's Cockatoo, Rufous Treecreeper, Splendid Fairy-wren, Red-winged Fairy-wren, White-browed Scrubwren, Western Thornbill, Yellow-plumed Honeyeater, Tawny-crowned Honeyeater, Western Little Wattlebird, Yellow Robin, White-breasted Robin, Golden Whistler, Grey Shrike-thrush, Grey Currawong and Red-eared Firetail.

The Wungong catchment and adjacent areas (including Bungendore Park and the Serpentine Dam catchment) contain the largest breeding population of the Forest Red-

tailed Black Cockatoo known in the south-west and a number of important roost sites and foraging sites. This subspecies is currently listed as Schedule 1 (Endangered) under the Western Australian Wildlife Conservation Act, and as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*. The catchment also contains a small breeding population of Carnaby's Cockatoo (one of the few known breeding sites in the Darling Range and the Perth Metro Area). Carnaby's Cockatoo is listed as Schedule 1 (Endangered) under the Western Australian Wildlife Conservation Act, and as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999*. The area also contains a very important traditional roost site for Baudin's Cockatoo (one of the largest roosts in the State). Baudin's Cockatoo is listed as Schedule 1 (Endangered) under the Western Australian Wildlife Conservation Act, and as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*. At a regional and national level the Wungong catchment contains some of the most significant feeding, breeding and roosting sites (i.e. areas of critical habitat) for the Forest Red-tailed Black Cockatoo and for Carnaby's and Baudin's Cockatoos and this must be a major priority for conservation management. The protection of important feeding and breeding sites (especially areas with ancient veteran and stag trees) is crucial for the long-term survival of these populations. The Rufous Treecreeper is now rare or largely extinct on the Swan Coastal Plain and declining in parts of the Darling Range. For this species fallen and standing dead trees are an essential part of their habitat. The Splendid Fairy-wren, Red-winged Fairy-wren, White-breasted Scrubwren, Western Thornbill, Yellow Plumed Honeyeater, Tawny-crowned Honeyeater, Western Little Wattlebird, Yellow Robin, White-breasted Robin, Golden Whistler, Grey Shrike-thrush, Grey Currawong and Red-eared Firetail have all declined enormously on the Swan Coastal Plain and most appear to be declining in parts of the Darling Range. The Red-winged Fairy-wren is now uncommon and very patchily distributed north of the Wungong and extinct on most of the Swan Coastal Plain. The Yellow-plumed Honeyeater occurs in Wandoo woodlands along the Darling Scarp from Gooseberry Hill south to the Wungong and was once plentiful but now almost extinct on the Swan Coastal Plain. The White-breasted Robin previously occupied gullies north to the Helena River but no longer occurs in the northern parts of the Scarp. Its future survival in the Wungong depends on the management of the catchment and especially the riparian vegetation. The Red-eared Firetail is also patchily distributed north of the Wungong to Glen Forest. Its survival also depends on having adequate riparian vegetation especially areas with sedges upon which the birds feed.

There is one interesting absentee from the Wungong catchment, the Southern Emu-wren *Stipiturus malachurus westernensis*. This species occurs patchily along the Darling Scarp between John Forrest National Park and Kelmscott. It favours low dense shrubland and sedges especially *Gahnia* spp. along streams, a habitat that is scarce in the Wungong catchment.

The Wungong catchment supports good resident populations of a number of Western Australian endemic species and subspecies including the Forest Red-tailed Black Cockatoo, Carnaby's Cockatoo, Baudin's Cockatoo, Twenty-eight Parrot, Red-capped Parrot, Western Rosella, Red-winged Fairy-wren, Striated Pardalote, Western Gerygone, Western Thornbill, Western White-naped Honeyeater, Western Spinebill, Western Little Wattlebird, Western Yellow Robin, White-breasted Robin, Grey Fantail, White-backed Magpie, Grey Currawong, Australian Raven, Grey-breasted

White-eye and Red-eared Firetail. These endemics attract many naturalists to Bungendore Park and the Wungong Dam area.

The catchment contains a large number of species that occur throughout the south-west of the State but leave the coldest parts of their range including the Darling Range in the autumn and winter, moving north and north-east. These include the Pallid Cuckoo, Fan-tailed Cuckoo, Tree Martin, Grey Fantail, Western Gerygone, Striated Pardalote, Red Wattlebird and Magpie Lark. Others including the Sacred Kingfisher and Rainbow Bee-eater migrate north of the Tropic from the Gascoyne to Indonesia.

The main dam reservoir is relatively deep and the water deficient in algae and aquatic angiosperms, consequently it is rather poor in respect to the diversity and abundance of its waterfowl. The deep water and bare shoreline for example provide little or no habitat for diving or dabbling ducks. The recreation lake contains some suitable habitat for waterfowl but is mainly used as a temporary refuge for transient ducks, grebes and herons.

The clearing of areas around the catchment for farms and orchards has greatly increased the amount of habitat and food available to birds that would have originally been very scarce or absent in the catchment including the Australian Wood Duck, Galah, Elegant Parrot, Magpie and Raven. All of these are now well established in the area.

Noteworthy for the wrong reasons is the large number of exotic species (12 species) that are feral in the catchment or have been for a short time.

Despite all of the changes brought about by the Wungong Dam and the fact that the catchment is one of the most environmentally disturbed in the south-west, it still has a very high conservation value that requires protection and careful management.

An important aim of the current catchment thinning program should be to preserve existing populations, and maintain and improve their habitats. This will entail protecting important areas from undue disturbance, clearing, pollution and regular fires. Also important is the continuation of research into all aspects of the catchment ecology, and the monitoring of threatened and endangered species.

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