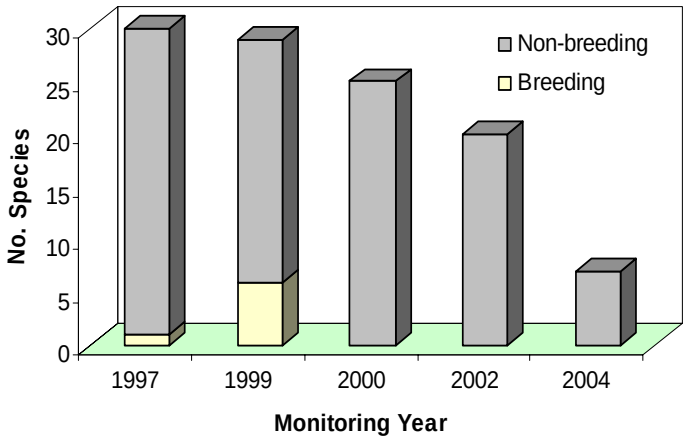
Lake Logue Waterbirds

The Wheatbelt Wetlands Monitoring Program

The Wheatbelt Wetlands monitoring program commenced in 1997 with 5 wetlands and was expanded to 25 wetlands by 1999. Lake Logue was first surveyed in 1997. Each wetland in the program is surveyed at least every second year for aquatic invertebrates and waterbirds and water chemistry and ground water parameters are measured. Waterbirds are surveyed using binoculars and a spotting scope to count all birds present. When lake depth is sufficient a small boat is used to gain better access to all parts of the lake. Evidence of breeding is recorded when observed, i.e. broods or nests with eggs, however, nests are not searched for and these data will be incomplete.

Waterbirds were surveyed at Lake Logue in late Winter (August), Spring (October) and Autumn (March) of each sampling year since 1997, i.e. 1997, 1999, 2000, 2002 and 2004. A total of 45 species have been recorded since monitoring began, representing the richest bird community in the monitoring program.

Waterbird Species Richness at Lake Logue



Lake Logue filled to a depth in excess of 3.7 m during 1999 and remained deeper than 1.2 m throughout 2000. Species richness was similar throughout this period and differed little from that recorded at much lower water depths in 1997 (less than 0.5 m). Six species bred after the lake filled including large numbers of Eurasian Coot.

Species richness in 2002 was lower than was recorded in 1997 despite very similar water depths. It is likely that this reduction in species richness is the result of increased salinity arising from salt inflow during the 1999 filling event. Species richness was lowest in 2004 because water levels were very low to dry throughout the year.

The distribution of waterbird richness across functional feeding groups (see overleaf) gives an indication of the available niches for waterbirds at Lake Logue. Despite large changes in water depth between 1997 and the present, the structure of waterbird communities has remained relatively similar. There was a consistent presence of several species of dabbler despite changes in water level. When water levels were high (e.g. Sep 1999- Feb 2001) diving species were well represented while during low water levels they were replaced by small waders. Small waders were represented by a large number (12) of species, but with a low frequency of occurrence such that most were only recorded for single surveys. The extensive shoreline at Lake Logue means that waders and shore feeders are represented by a small number of species even at high water levels.

Government of Western Australia
Department of Environment and Conservation

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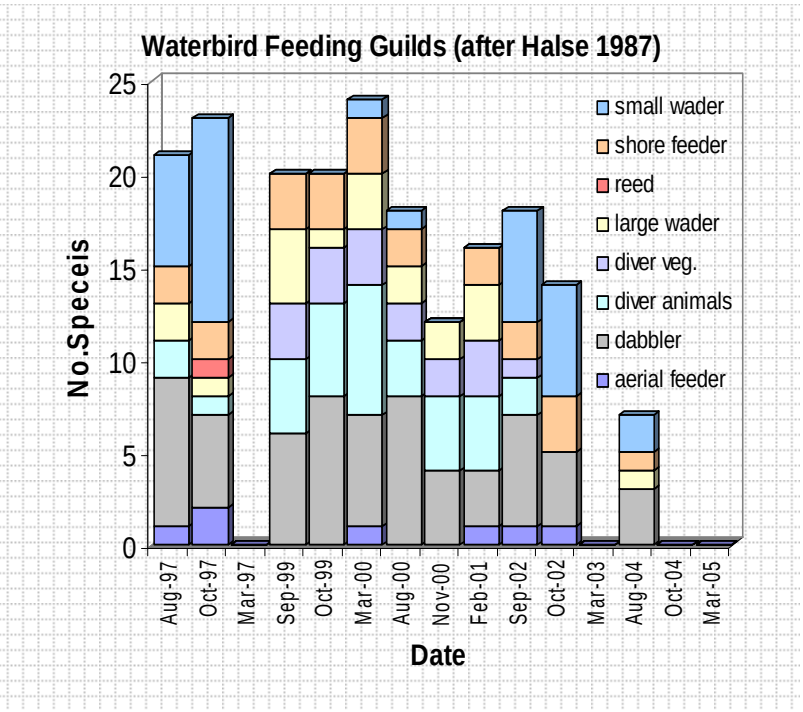

TABLE 1 Waterbird species list for Lake Eganu. % Occurrence is the proportion of surveys, with depth greater than 0 m, for which the species was recorded

Species	%Occ.	Species	%Occ.
Australian Shelduck	76.9	Common Greenshank	23.1
Grey Teal	76.9	Great Crested Grebe	23.1
Pacific Black Duck	69.2	Great Egret	23.1
Hoary-headed Grebe	61.5	Red-necked Avocet	23.1
Australasian Shoveler	53.8	Silver Gull	23.1
Eurasian Coot	53.8	Swamp Harrier	23.1
Pink-eared Duck	53.8	Whiskered Tern	23.1
Little Black Cormorant	46.2	Australasian Grebe	15.4
Little Pied Cormorant	46.2	Darter	15.4
Musk Duck	46.2	Glossy Ibis	15.4
White-faced Heron	46.2	Nankeen Night Heron	15.4
Australian Wood Duck	38.5	Red-kneed Dotterel	15.4
Black-winged Stilt	38.5	Black-tailed Native-hen	7.7
Hardhead	38.5	Chestnut Teal	7.7
Straw-necked Ibis	38.5	Common Sandpiper	7.7
Australian White Ibis	30.8	Curlew Sandpiper	7.7
Black-fronted Dotterel	30.8	Freckled Duck	7.7
Blue-billed Duck	30.8	Red-necked Stint	7.7
Red-capped Plover	30.8	Sharp-tailed Sandpiper	7.7
Yellow-billed Spoonbill	30.8	Spotless Crake	7.7
Australian Pelican	23.1	Terek Sandpiper	7.7
Banded Stilt	23.1	Wood Sandpiper	7.7
Black Swan	23.1		

Further reading:

Cale D.J., Halse S.A. and Walker C.D. (2005) Wetland monitoring in the Wheatbelt of Western Australia: site descriptions, waterbird, aquatic invertebrate and groundwater data. *Cons. Sci. W. Aust.* **5** (1): 20-135

Halse S.A. (1987*) Probable effect of increased salinity on the waterbirds of Lake Toolibin.* Technical Report No. 15. Dept. Conservation and Land Management, Perth Western Australia.