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Lake Parkeyerring Waterbirds

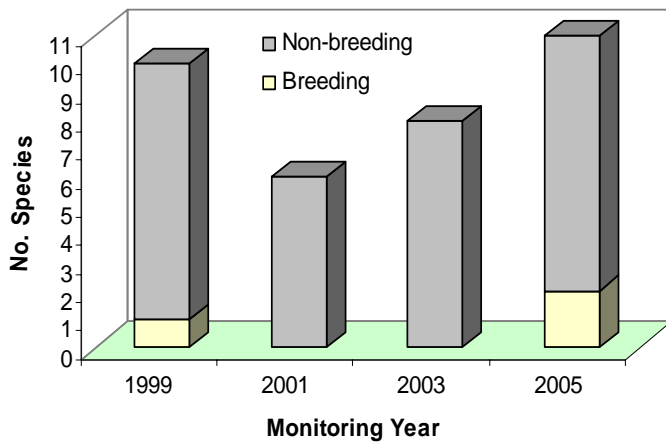
The Wheatbelt Wetlands Monitoring Program

The Wheatbelt Wetlands monitoring program commenced in 1997 with 5 wetlands and was expanded to 25 wetlands by 1999. Lake Parkeyerring was first surveyed in 1999. 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 Parkeyerring in late Winter (August), Spring (October) and Autumn (March) of each sampling year since 1999, i.e. 1999, 2001, 2003, and 2005. A total of 18 species have been recorded since monitoring began.



Waterbird Species Richness at Lake Parkeyerring



birds in Spring 1999 when the lake was 0.86m deep.

Four species were only present when lake depth was less than 50 cm. These were all small waders and included the Red-capped Plover which was present in 71% of surveys at < 50cm depth. Conversely, eight species were present only at depths greater than 50 cm

Species richness ranged from 1-9 for individual surveys and was positively correlated with water depth ($r=0.8$, $df 10$, $p<0.01$). No such correlation between abundance and depth was observed. However, abundance tended to increase through the year as lake depth decreased and more birds used the lake as a refuge possibly taking advantage of seasonally abundant foods such as seed shrimps (Ostracoda). This tendency was reduced when the lake reached low water levels, i.e. less than 50 cm depth, when abundance and species richness declined rapidly. The highest abundance recorded was of 4657

including the Black Swan (80% of surveys >50cm depth) and the Pink-eared Duck (60%).

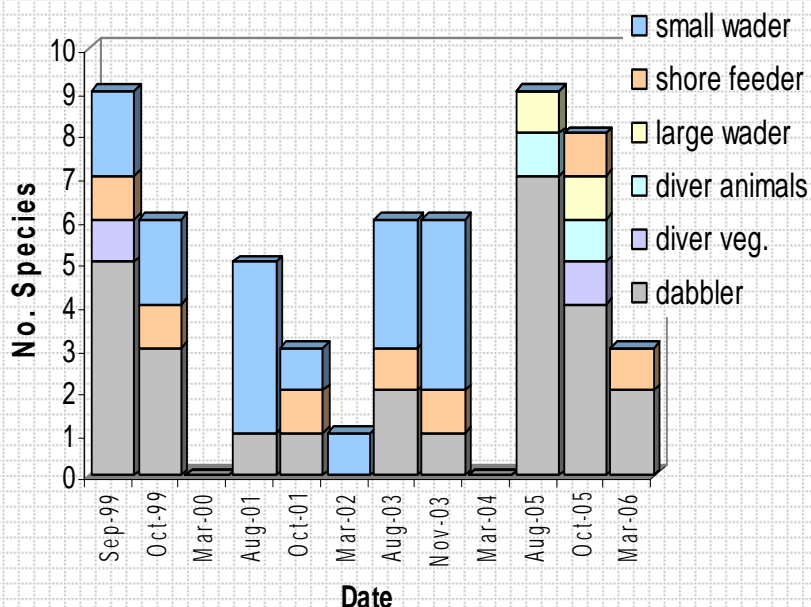
Breeding was restricted to Australian Shelduck and Grey Teal and was only observed in years where water levels were greater than 50 cm.



Department of
Environment and Conservation

Lake Parkeyerring Waterbirds

Waterbird Feeding Guilds (after Halse 1987)



While guild structure was generally simple the distribution of waterbird richness across feeding guilds at Lake Parkeyerring was strongly dependent on water depth. When water levels were low (< 50cm), as through most of 2001 and 2003, the shoreline was extensive and small waders dominated the guild structure. At greater than 1 m lake depth dabblers dominated the community and other guilds were evident, such as the two diver guilds. At intermediate depth, elements of both communities were present.

TABLE 1 Waterbird species list for Lake Parkeyerring compiled from three surveys each sampling year except 2002 and 2004 when the lake was dry for the autumn survey. % Occurrence is the proportion of surveys, with depth greater than 0 m, for which the species was recorded

Species	1999	2001	2003	2005	% Occurrence
Australian Shelduck	√	√	√	√	90
Silver Gull	√	√	√	√	70
Grey Teal	√	0	√	√	60
Red-capped Plover	0	√	√	0	50
Black Swan	√	0	0	√	40
Pink-eared Duck	√	0	0	√	30
Black-winged Stilt	√	0	√	0	30
Red-necked Stint	0	√	√	0	30
Pacific Black Duck	√	0	0	√	20
Hoary-headed Grebe	0	0	0	√	20
Eurasian Coot	√	0	0	√	20
White-faced Heron	0	0	0	√	20
Banded Stilt	√	0	√	0	20
Hooded Plover	√	√	0	0	20
Australasian Shoveler	0	0	0	√	10
Hardhead	0	0	0	√	10
Curlew Sandpiper	0	√	0	0	10
Red-necked Avocet	0	0	√	0	10

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.