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Lake Coomelberrup Waterbirds

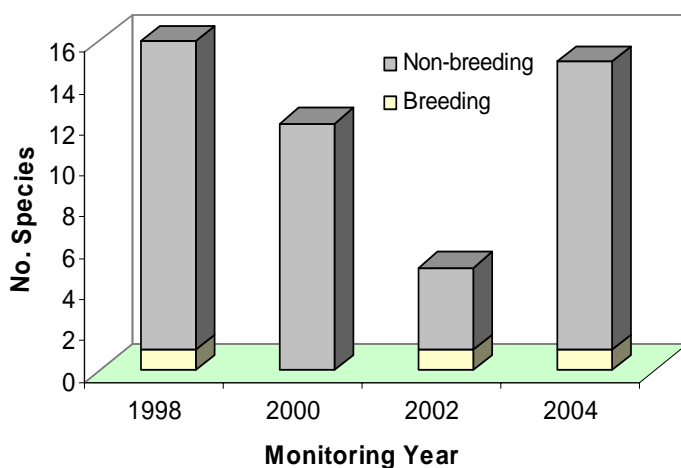
The Wheatbelt Wetlands Monitoring Program

The Wheatbelt Wetlands monitoring program commenced in 1997 with 5 wetlands and was expanded to 25 wetlands by 1999. Lake Coomelberrup was first surveyed in 1998. 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 Coomelberrup in late Winter (August), Spring (October) and Autumn (March) of each sampling year since 1998, i.e. 1998, 2000, 2002, and 2004. A total of 23 species have been recorded since monitoring began.

Waterbird Species Richness at Lake Coomelberrup



Species richness was positively correlated with water depth ($r=0.78$, $df\ 10$, $p<0.05$), however, there was no such relationship between abundance and depth. The Grey Teal was the most abundant waterbird with a mean abundance of 540 birds recorded for the 9 surveys when it was present. The Australian Shelduck was recorded on all surveys and was observed breeding in all years except 2000. Twenty one species (91% of richness) were recorded on four or fewer surveys. This low frequency of occurrence implies an opportunistic use of the wetland and the absence of a static resident population of waterbirds.

Despite a relatively simple habitat structure the number of feeding guilds supported in Lake Coomelberrup was high with between 1 and 6 guilds in any survey (mean 2.8). However, most species were either of the dabbler or small wader guild. In 2002 when water levels were low and salinities exceeded 100mS/cm (i.e., approaching twice the concentration of

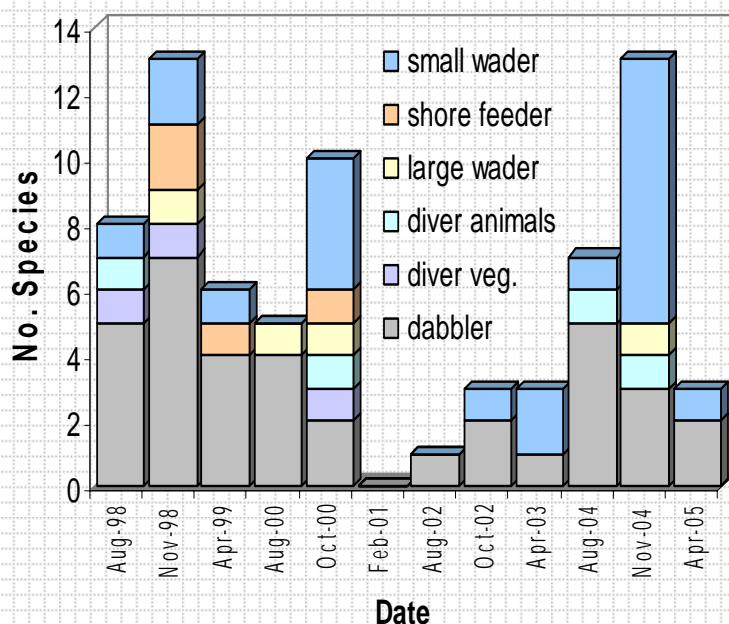
seawater) richness was reduced to three or fewer species and guild structure was reduced to dabblers and small waders. A high richness amongst small waders in spring 2004 coincided with a period of high water level (0.8m), however, extensive shoreline and shallows remained available for their use



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Waterbird Feeding Guilds (after Halse 1987)



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.

TABLE 1 Waterbird species list for Lake Coomelberrup compiled from three surveys each sampling year except 2000 when the lake was dry for the third survey. % Occurrence is the proportion of surveys, with depth greater than 0 m, for which the species was recorded

Species	1998	2000	2002	2004	% Occurrence
Australian Shelduck	√	√	√	√	100.0
Grey Teal	√	√	√	√	81.8
Australasian Shoveler	√	√	0	√	36.4
Black Swan	√	√	0	√	36.4
Hoary-headed Grebe	√	√	0	√	36.4
White-faced Heron	√	√	0	√	36.4
Banded Stilt	0	√	√	√	36.4
Red-capped Plover	√	√	√	√	36.4
Silver Gull	√	√	0	0	27.3
Black-winged Stilt	√	0	0	√	27.3
Chestnut Teal	√	0	0	0	18.2
Hardhead	√	0	0	0	18.2
Pacific Black Duck	√	0	0	0	18.2
Pink-eared Duck	0	0	0	√	18.2
Eurasian Coot	√	0	0	0	18.2
Common Greenshank	√	0	0	√	18.2
Red-kneed Dotterel	√	0	0	√	18.2
Red-necked Stint	0	√	0	√	18.2
Sharp-tailed Sandpiper	0	√	0	√	18.2
Musk Duck	0	√	0	0	9.1
Australian Wood Duck	√	0	0	0	9.1
Hooded Plover	0	0	√	0	9.1
Red-necked Avocet	0	0	0	√	9.1