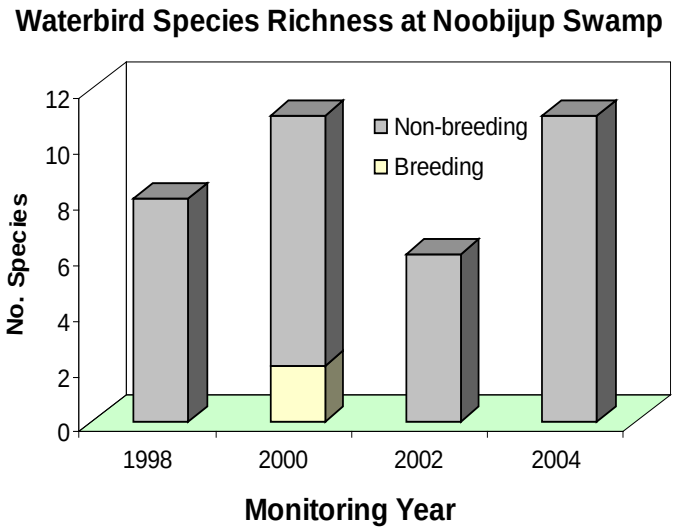
Noobijup Swamp Waterbirds

The Wheatbelt Wetlands Monitoring Program

The Wheatbelt Wetlands monitoring program commenced in 1997 with 5 wetlands and was expanded to 25 wetlands by 1999. Noobijup Swamp was first surveyed in 1998. Each wetland is surveyed 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. 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 at Noobijup Swamp were surveyed in late Winter (August), Spring (October) and Autumn (March) of each sampling year since 1997, i.e. 1998, 2000 and 2002. In 2004 surveys were completed in Winter and Spring only. Fifteen species have been recorded since monitoring commenced.



Species richness and Abundance were positively correlated ($r=0.611$, df 9, $p<0.05$). Species richness was low in all surveys (range of 3 to 8 species), and dependant on season to the extent that richness increased as the year progressed, except in 1998 when richness ranged from 4 to 5 species. This seasonal pattern is in part due to falling water depth as the year progresses which enables large wading species such as the White-faced Heron, Yellow-billed Spoonbill and Australian White Ibis to make use of the wetland. The lake has not been an important area for the breeding of waterfowl; only the Purple Swamphen and Black Swan were recorded breeding and only in 2000 when water depth was greater than 1m during the breeding season.

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The most commonly encountered bird was the Purple Swamphen which was recorded for all surveys and with the Musk Duck and Clamorous Reed Warbler accounted for between 44% and 93% (mean 76%) of the total abundance in any survey. Abundance was correlated with depth for the Purple Swamphen ($r=0.77$) and Musk Duck ($r=0.67$; $r(2),df8,p<0.05$) with both in greater abundance at greater lake depths.

The occurrence of the Little Bittern at Noobijup Swamp is worthy of note as this species is infrequently encountered

Department of Environment and Conservation

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The species assemblage at Noobijup Swamp is dominated by species typical of sedge swamps, including the Purple Swamphen and species of the Large Wader and Reed guilds like the White-faced Heron, Spotless Crake and Little Bittern. All feeding guilds were represented by only one or two species in any single survey. Most guilds were represented by the same species on each occasion i.e. Shore feeder, Aerial feeder, and Diver vegetation were represented by Purple Swamphen, Swamp Harrier, and Musk Duck respectively. By contrast, four species of the "Reed" guild were recorded during monitoring. The dependence of the waterbird community on the reed habitat clearly suggests that a major shift in the species present would occur if this habitat was to deteriorate.

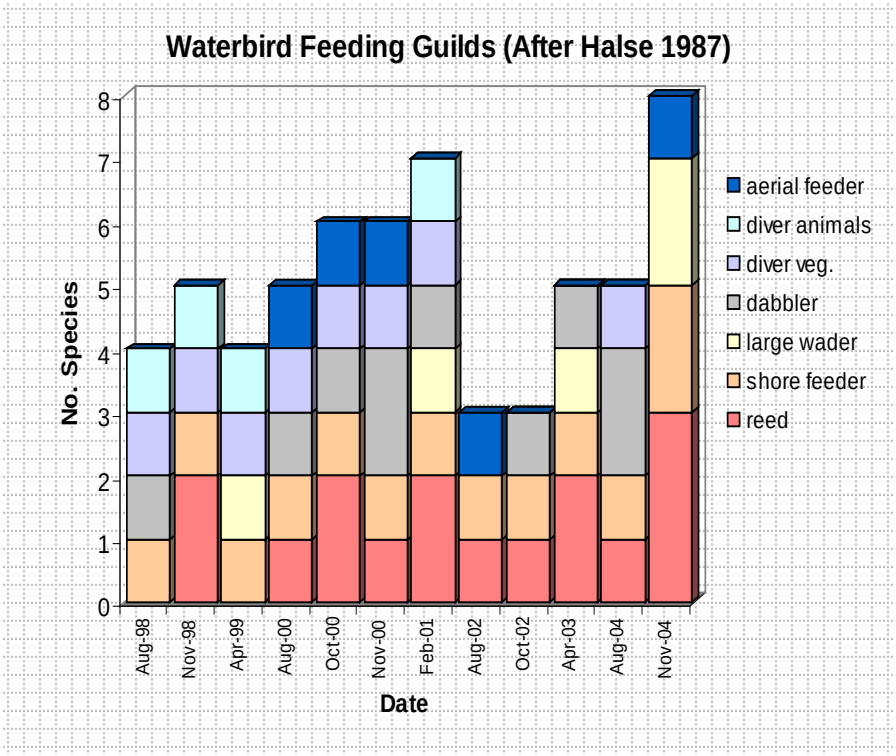

TABLE 1 Waterbird species list for Noobijup Swamp compiled from three surveys each sampling year. % Occurrence is the proportion of surveys with depth greater than 0 m for which the species was recorded

Species	1998	2000	2002	2004	% Occurrence
Purple Swamphen	√	√	√	√	100.00
Clamorous Reed-Warbler	√	√	√	√	83.33
Musk Duck	√	√		√	66.67
Swamp Harrier		√	√	√	41.67
White-faced Heron	√	√	√	√	33.33
Pacific Black Duck	√	√		√	33.33
Black Swan		√	√		33.33
Spotless Crake		√	√	√	25.00
Little Pied Cormorant	√	√			25.00
Little Grassbird		√		√	16.67
Australian Shelduck		√		√	16.67
Yellow-billed Spoonbill				√	8.33
Little Bittern	√				8.33
Darter	√				8.33
Australian White Ibis				√	8.33

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.