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Lake Walyormouring Waterbirds

Lake Walyormouring lies 16 km north of Goomalling and is a shallow saline wetland. While usually seasonal the lake occasionally holds water over consecutive years. Large areas of the northern and southern shore support a belt of dead trees killed by increased periods of inundation.

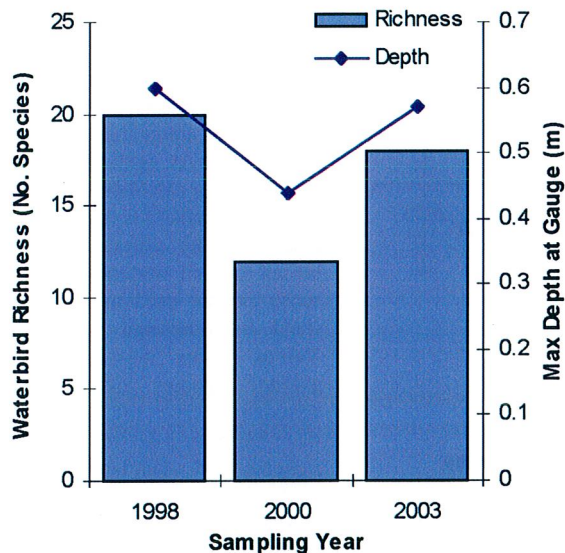


View across the saline shallows of Lake Walyormouring (photo by S.A.Halse)

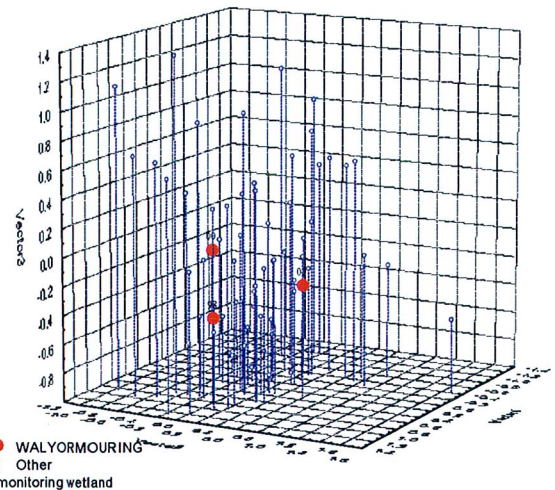
Species Richness

A total of 25 species were recorded during the period of monitoring and 40% of these were recorded in all years. As well as a number of species of common waterfowl such as Grey Teal, Australian Shelduck and Eurasian Coot, many wading and shorebird species were recorded, including 2700 Banded Stilt.

Abundance ranged from 6500 to 14600 birds annually with several species being numerous. Grey Teal were consistently in high abundance with more than 2000 birds recorded in all years. Waterbird community structure was variable between years both because of changing species composition and relative abundances. Much of this variability was the result of changes in the shorebird species present.



Species richness at Lake Walyormouring.



MDS Ordination (SSH) of range standardized abundance of waterbird species.

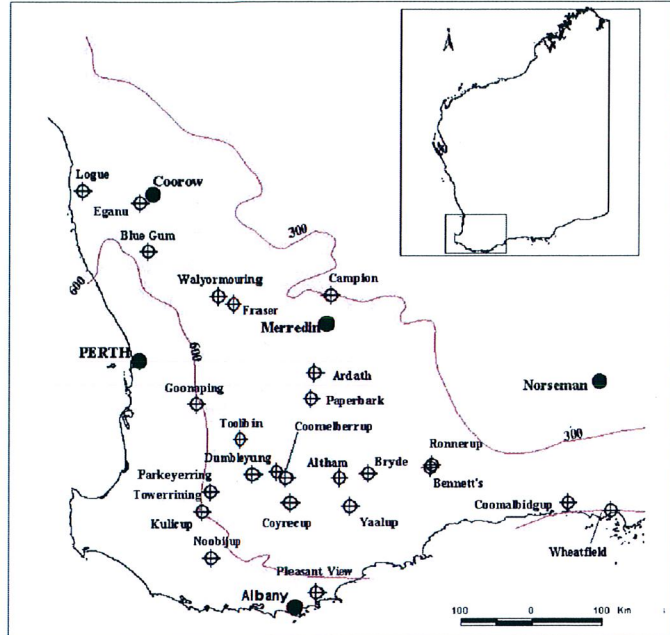
Further Reading

- Cale, D.J., S.A.Halse and C.D.Walker (2004) Wetland monitoring in the Wheatbelt of Western Australia: site descriptions, waterbird, aquatic invertebrate and groundwater data. *Conservation Science W. Aust* 5: 20-135
- Halse, S.A., D.J. Cale, E.J. Jasinska and R.J. Shiel (2002) Monitoring change in aquatic invertebrate biodiversity: sample size, faunal elements and analytical methods. *Aquatic Ecology* 36:1-16
- Jaensch, R.P., R.M. Vervest and M.J. Hewish (1988) Waterbird surveys of wetland nature reserves in south-western Australia: 1981-85. Report No. 30, Royal Australasian Ornithologists Union, Melb.

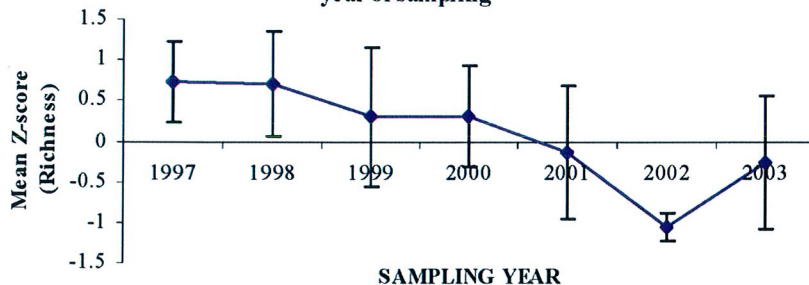
Salinity Action Plan Wheatbelt Wetlands Monitoring Programme

Wheatbelt Wetlands Monitoring

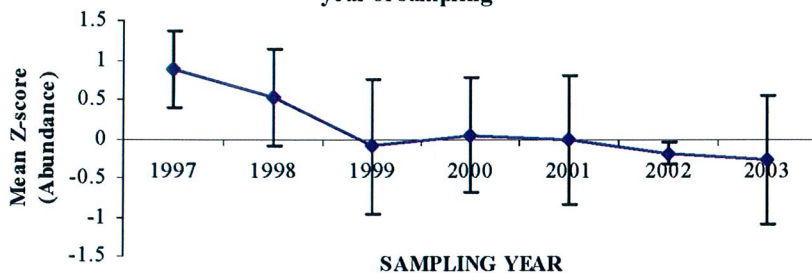
The Salinity action Plan Wheatbelt Wetlands Monitoring programme commenced in 1997 with the sampling of five wetlands and was expanded to include 13 in 1998 and finally a total of 25 wetlands in 1999. These monitoring wetlands have been sampled every second year since commencement, such that half of the wetlands are sampled in alternating years. Wetlands first sampled in 1997 have now been sampled 4 times. While this actually yields few data points and interpretation is, at this stage, imprecise it is expected that as the project continues and further data points are collected an increasingly accurate estimate of wetland trends will be achieved. Faunal sampling includes; waterbird species richness and abundance, aquatic invertebrate species richness and abundance and water-chemistry. Sampling of these parameters is directed toward tracking trends in biodiversity of the wetlands individually and as a group to reflect the status of wheatbelt wetlands generally. This brief note presents data for waterbird surveys up to 2003 and is intended as an annual mechanism for reporting data from this project.



MEAN Z-score for WATERBIRD RICHNESS at all lakes during year of sampling



MEAN Z-score for WATERBIRD ABUNDANCE at all lakes during year of sampling



Waterbird Richness and Abundance in the Wheatbelt

The number of species present (Richness), is a valuable measure of biodiversity and abundance is indicative of the productivity of wetlands. The mean z-score for waterbird richness and abundance is calculated in the same way. At each wetland the normal deviate (z) is calculated for each year, from the entire dataset for that wetland. The mean z-score is the average of these annual z-scores over all wetlands. Thus, the mean z-score can be used to measure the overall trend in monitored wetlands over time. Values below zero reflect lower than average species richness or waterbird abundance. Over the period of monitoring there has been a decline in waterbird species richness and abundance at the monitored wetlands. This has coincided with a decline in rainfall following 1999 with 2000-2002 showing 'average' to 'very much below average' rainfall over the study area. It is too early to ascribe the reduction in species richness and abundance to low rainfall, although it is intuitive that the lower water levels and higher salinities associated with low rainfall are likely to lead to fewer species using wetlands.