

FAUNA

MARY CARROLL PARK WETLAND FROM
A WATER BIRD CONSERVATION GROUP PERSPECTIVE

by Joan Payne

LIKE most urban freshwater wetlands, Mary Carroll Park in Gosnells has been substantially modified, reduced in size, used as a rubbish tip, nightsoil dump, orchard, market garden and piggery and is currently a compensating basin (or a stormwater sump). Most of the catchment was until very recently on septic tanks.

Mary Carroll Park contains two separate water bodies, which provide habitat and refuge for a large range and number of waterfowl species. It is also a System 6 area and supports internationally important wading birds. It was once known locally as Kurtz' Swamp, but later renamed after a well-respected local identity Mary Carroll, who taught at the nearby primary school and used the wetlands as an educational resource for her students.

In the mid 1970's Mary Carroll Park was extensively modified. Islands were created to provide refuge and nesting areas, and a causeway which projects into the main lake built. A Concept Plan highlighted the conservation values of the wetlands and the likelihood of botulism occurring if modification created pools of stagnant water.

One of the more innovative aspects of the modification was the creation of a fenced wildlife sanctuary, with the more densely vegetated part of the northern lake being inaccessible to the public. Even today the debate, about excluding the public to facilitate breeding and provide a sanctuary for wildlife, continues. Yet the exclusion of the public from parts of Mary Carroll Park continues to be well accepted by the local community and supported by the Gosnells Council.



Ibis.



Heron.

Photos courtesy of Joan Payne.

A number of ornithological studies were carried out. One of particular note by Colin Heap from the Waterbird Conservation Group, involved regular bird counts over a 15 month period. These studies concluded that Mary Carroll Park supported the second largest population of black ducks in the metropolitan area. A diverse range of waterfowl frequent Mary Carroll Park, including musk duck, blue-bill duck, yellow-billed spoonbill, great crested grebe, hardhead, white-faced heron, little pied cormorant, moorhen, black fronted dotterel and red-capped dotterel. Greenshank, an internationally significant wader has also been recorded there.

For Waterbird Conservation Group members, involvement with Mary Carroll Park Lake began in the summer of 1984 when a severe botulism outbreak occurred and hundreds of birds died. At the time

there were many theories as to why birds were becoming paralysed and slowly dying, including chemical poisoning. The difficulty in determining whether waterbirds are dying from botulism stems from the need for expensive, sometimes exhaustive, and not always conclusive tests, of a number of live birds in the early stages of the sickness. The Group does not generally support the testing of live birds and continues to diagnose on the basis of symptoms and the birds response to treatment. Over the next few years small botulism outbreaks continued at Mary Carroll Park during the summer months, but in 1987 a severe outbreak occurred which involved over 1,000 casualties. It was established through testing that botulism was the cause.

After the 1987 botulism outbreak, the Gosnells Council stung by criticism of their management practices, established a Working Group which included members of the Waterbird Conservation Group and experts from the Environmental Protection Authority and Water Authority of Western Australia. A nutrient study was carried out by Rodda and Deeley. This study concluded that Mary Carroll Park was nutrient enriched and recommended urgent action to improve the water quality, including the preparation of a community based management plan.

A Management Plan prepared by Pedersen and Conacher, University of Western Australia, was released in 1991. This Management Plan was well received by the Waterbird Conservation Group and the local community, and its actions are currently being

FAUNA

continued from page 9

Mary Carroll Park, Gosnells
Summary of Waterbird Casualties From 1985 to 1991

YEAR	TOTAL NO CARCASSES	TOTAL NO RESCUED	REHABILITATED & RELEASED	TOTAL AFFECTED
1985	100	63	36	163
1986	-	-	-	-
1987	682	342	251	1024
1988	150	55	44	205
1989	412	303	226	715
1990	38	34	29	72
1991	106	25	15	131

SPECIES AFFECTED TOTAL: 24

Black Duck	Eurasian Coot
Grey Teal	Musk Duck
Purple Swamphen	Blue-billed Duck
White-faced Heron	Rufous Night Heron
Moorhen	Hardhead
Pied Stilt	Great Egret
Sacred Ibis	Yellow-billed Spoonbill
Mountain Duck	Little Pied Cormorant
Black Swan	Little Black Cormorant
Blue-winged Shoveller	Black-fronted Dotterel
Chestnut Teal	Little Grebe
Wood Duck	Feral Duck

implemented. Council budget allocations to address water quality problems and implement the Management Plan have continued each year. The Working Party, of which Waterbird Conservation Group is still a member, meets regularly and has recently overseen an infill sewerage project which will undoubtedly result in long term benefits for groundwater and wetland water quality.

BOTULISM

Botulism is a bacterial poisoning, not an infection. The organism responsible, *Clostridium botulinum* produces a paralysing nerve toxin. When conditions in the wetland are favourable - warm temperature, high nutrients and low oxygen - the spores (which may have been lying dormant) germinate and multiply and a potent nerve toxin is produced. Birds swallow the toxin (usually in food) and absorb it through the lining of the digestive tract. The toxin enters the

blood stream and goes through the nervous system.

Botulism appears to affect all species in proportion to the numbers present. If birds are picked up in the early stages of botulism and treated, the prognosis is good for a full and fairly rapid recovery. At first birds lose the ability to fly, then to walk or swim. Unable to preen, they are increasingly susceptible to parasites such as leeches and blowflies. They become unable to eat or drink. Eventually the respiratory muscles become paralysed and the birds die. This agonising death can take many days.

A high percentage of birds will make a full recovery if treated promptly and correctly. They should be removed from the affected site, given a prepared solution, kept quiet and away from flies.

Joan Payne is President of the Waterbird Conservation Group, and is contactable by phone on (08) 9371 1670.