

# MIDGE MANAGEMENT STRATEGY IMPLEMENTATION PLAN (2005 – 2010)

## LAKE JOONDALUP

<b>ACTIONS</b>	<b>RESPONSIBLE BODIES</b>	<b>TIMING</b>	<b>FUNDING ARRANGEMENTS</b>	<b>PROCEDURES</b>
<b>1.0 COORDINATION</b>				
<b>1.1 Funding</b> State and Local governments have agreed to providing, allocating and managing funding for the Midge Management Strategy 2005 – 2010.	CALM, COW, COJ	2005 - 2010	Total annual cost \$205,000 50% - CALM (\$102,500) 25% - COW (\$51,250) 25% - COJ (\$51,250) As allocated below.	1.1.1 Funding Arrangements
<b>1.2 Midge Steering Group</b> A Midge Steering Group has been established between the Department of Conservation and Land Management (CALM), City of Wanneroo (COW) and City of Joondalup (COJ). The purpose of the Midge Steering Group is to discuss and make recommendations on any issues pertaining to the Midge Management Strategy.	CALM, COW, COJ	As required	Officer time paid within existing departmental budgets.	1.2.1 Decision Making Powers  1.2.2 Documenting Meetings
<b>2.0 MONITORING</b>				
<b>2.1 Midge Larval Monitoring</b> Undertake the midge larval monitoring program to better predict when treatments will be necessary and most effective. The monitoring program will be consistent with other programs on the Swan Coastal Plain in conjunction with the Midge Research Group.	CALM, COW, COJ	Weekly As required	Total annual cost \$30,000 \$15,000 - CALM \$7,500 - COW \$7,500 – COJ	2.1.1 Midge Monitoring  2.1.2 Midge Species Identification
<b>2.2 Water Monitoring</b> Physical and chemical characteristics of the Lake water will be monitored at one site during the weekly midge larval monitoring process. Water monitoring will provide information to better understand the Lake's nutrient status and habitat factors influencing the midge population.	CALM, COW, COJ	Weekly As required	Including midge and water monitoring equipment and labour costs.	2.2.1 Physical Water Monitoring  2.2.2 Chemical Water Monitoring
<b>2.3 Hovercraft</b> Maintenance/repair of hovercraft used for midge larval and water monitoring.	CALM, COW, COJ	Ongoing As required	Total annual cost \$5,000 \$2,500 - CALM \$1,250 - COW \$1,250 - COJ	
<b>3.0 NUISANCE REDUCTION</b>				
<b>3.1 Chemical Treatment</b> The Midge Steering Group has agreed on a maximum of four (4) chemical treatments per year.	CALM, COW, COJ	As required, based on procedure 3.1.1	Total annual cost \$120,000 \$60,000 - CALM \$30,000 - COW \$30,000 – COJ  4 Treatments per year @ \$30,000 per treatment. -Helicopter Hire \$1200/hr -Chemical (Abate) \$530/drum -Including personal protective equipment and labour costs.	3.1.1 Decision and Authority for Chemical Treatment  3.1.2 Contact List for Chemically Hypersensitive Residents  3.1.3 Chemical Treatment
<b>3.2 Other Intervention Strategies</b> Develop and implement other intervention strategies to reduce the reliance on chemical treatment for the purpose of nuisance reduction e.g. light traps	CALM, COW, COJ	Ongoing	Total annual cost \$15,000 \$7,500 - CALM \$3,750 - COW \$3,750 - COJ	

<b>4.0 RESEARCH</b>				
<b>4.1 Research Projects</b> Objectives of Research Projects; <ul style="list-style-type: none"> <li>Research the influence of both water quality and habitat on the midge life cycle</li> <li>Develop a research program that will provide predictive capabilities for midge emergence for better control.</li> <li>Develop an understanding of the nutrient budget of the Lake and linkage with nutrient contributors within the catchment.</li> <li>Evaluate feasibility for various intervention strategies.</li> </ul> The strategy may undertake other research projects as required.	CALM, COW, COJ	Ongoing	Total annual cost \$30,000 \$15,000 - CALM \$7,500 - COW \$7,500 - COJ	
<b>4.2 Midge Research Group</b> Liaise and partner with the metropolitan Midge Research Group. The strategy may also provide funding for the Midge Research Group to undertake mutually agreed projects that support the required research objectives.	CALM, COW, COJ	Quarterly Meetings		4.2.1 Documenting Meetings  4.2.2 Funding Arrangements
<b>5.0 PUBLIC INFORMATION AND EDUCATION</b>				
<b>5.1 Response to Midge Nuisance Concerns</b> Capture and respond to residents concerns regarding nuisance midge.	COW, COJ	As required	Total annual cost \$5,000 \$2,500 – CALM	5.1.1 Midge Nuisance Complaints
<b>5.2 Midge Management Information Package</b> Produce public midge management information package, including midge management pamphlet. To be accessed via website.	CALM, COW, COJ	2005	\$1,250 - COW \$1,250 - COJ	
<b>5.3 Midge Management Education</b> Encourage/educate landowners, managers and community groups to focus efforts towards the overall care of the catchment.	CALM, COW, COJ	Ongoing		
<b>6.0 SUPPORT FOR INTEGRATED CATCHMENT MANAGEMENT</b>				
<b>6.1 General Support of Integrated Catchment Management Plan</b> Support the development and implementation of the Integrated Catchment Management Plan (ICMP) for the Yellagonga Regional Park.	CALM, COW, COJ	Ongoing	Funds provided in existing agency budgets (separate project).	
<b>6.2 Stormwater Quality</b> Reducing nutrient input from stormwater drainage.	COW, COJ	Ongoing	As required.	
<b>6.3 Groundwater Quality</b> Reducing nutrient input from groundwater contamination.	COW, COJ	Ongoing	As required.	
<b>7.0 REPORTING</b>				
<b>7.1 Annual Report</b> Annual report to be produced on all midge management actions and related outcomes for each midge season.	COW, COJ	Annually	Officer time paid within existing departmental budgets.	7.1.1 Report Proforma  7.1.2 Annual Reporting Responsibilities
<b>7.2 Annual Financial Report</b> Annual report to capture all expenditures.	COW	Annually	Officer time paid within existing departmental budgets.	7.2.1 Annual Reporting Responsibilities