

MIDGE MANAGEMENT STRATEGY PARTNERSHIP AGREEMENT – 2015 - 2020

1.0 BACKGROUND

The Yellagonga Regional Park contains a wetland system that includes Lake Goollelal, Walluburnup Swamp, Beenyup Swamp and Lake Joondalup.

In 1999, residents living in the vicinity of Lake Joondalup suffered plague proportions of adult midge. This event led to the establishment of a formal agreement between the City of Joondalup, the City of Wanneroo and the Department of Environment and Conservation (now known as the Department of Parks and Wildlife) for the management of midge.

Lake Goollelal was added as part of a formal agreement between all three agencies in 2010, although an informal arrangement for managing midge at Lake Goollelal had existed since 2007.

Nuisance midge swarms are attributed to poor water quality in the wetland system of Yellagonga Regional Park.

The overall health of the wetlands within the Yellagonga Regional Park is dependent on the nature and state of the surrounding catchment as well as historic and changing land use. The surface water catchment area for the wetlands extends into large areas of the City of Wanneroo as well as the City of Joondalup.

Ground water is likely to also have a significant impact on the water quality within the wetlands of the Yellagonga Regional Park. Ground water flows from East to West and surface water flows through the wetlands within the park in a Northerly direction. Previous land uses such as market gardens to the East, inappropriate fertiliser use and the Wangara industrial area which is non-sewered in part, are likely to impact overall water quality of the wetland system.

The partnership was established as it is considered that the midge issue emanates from the surrounding catchment areas, including historical and current land use, and requires the expertise and resources of the three agencies to be integrated.

2.0 STATEMENT OF PURPOSE

A partnership agreement (2015-2020) for the management of nuisance midge within the wetland system of the Yellagonga Regional Park.

3.0 PARTNERS

The partners of the Midge Management Strategy Partnership Agreement 2015-2020 are:

- **Department of Parks and Wildlife (DPaW)**
- **City of Wanneroo (CoW)**
- **City of Joondalup (CoJ)**

4.0 OBJECTIVES

The Midge Management Strategy Partnership Agreement (the Midge Agreement) is designed to encourage an effective and sustainable partnership, for the purpose of managing nuisance midge within the wetland system of the Yellagonga Regional Park.

The Midge Agreement objectives are:

- 4.1 For control and management of nuisance midge within the wetland system of the Yellagonga Regional Park, through funding midge larvae and water monitoring, nuisance reduction using pesticide application when required, other intervention strategies, research projects in an effort to better understand the factors contributing to the seasonal midge plagues and public information and education.
- 4.2 To arrange for the allocation, management and administration of funds for the strategy.

5.0 ACTION PLAN

Please refer to the **Midge Management Strategy Action Plan (2015-2020)** (the Action Plan) attached, which incorporates **Actions, Responsible Bodies, Timing and Funding Arrangements**.

6.0 PARTNERSHIP PRINCIPLES

OVERARCHING PRINCIPLE

A commitment to improving cooperation, communication and collaboration between the local and state government agencies, to enhance sustainable social, environmental and economic outcomes for the management of nuisance midge within the wetland system of the Yellagonga Regional Park.

GENERAL PRINCIPLES

A commitment to:

Partnerships

- Recognise that partnerships are essential to achieve sustainable social, environmental and economic outcomes for the control and management of nuisance midge within the wetland system of the Yellagonga Regional Park.
- Be flexible and open to new approaches in implementing the Midge Agreement.
- Be sensitive and responsive to the needs and constraints of all partners.

Roles and Responsibilities

- Identify and understand the roles and responsibilities of both spheres of government as detailed in Part 8 of this agreement.
- Ensure that these roles and responsibilities are considered and respected in all decisions.
- Recognise and respect the role that each plays in enhancing sustainable social, environmental and economic outcomes for the control and management of nuisance midge within the wetland system of the Yellagonga Regional Park.

Communication

- Open and timely communication on issues of relevance to the Midge Agreement.
- Recognise the need for confidentiality of discussions until a mutually agreed time.
- Recognise that State and Local Governments may use different processes to communicate with constituent groups.

Consultation

- Purposeful consultation at mutually agreed stages to facilitate understanding and agreement.
- Recognise and account for the different decision making processes of both spheres of government.

Service Delivery

- Continual improvement in the efficiency, effectiveness, timeliness and appropriateness of the Midge Agreement.

Outcomes

- Agreed actions and responsibilities as stated in the Action Plan.
- Promote a realistic approach to funding and resource issues.
- Contribute resources and expertise to the Midge Agreement.

Accountability

- A transparent approach where changes to roles, responsibilities and budgets are negotiated and mutually agreed and resources necessary to implement change are identified.
- Undertake open assessments of the effectiveness of the Midge Agreement.
- Have clearly defined reporting, dispute resolution and review mechanisms.

7.0 SCOPE OF THE AGREEMENT**7.1 Responsibilities:**

The Department of Parks and Wildlife and the City of Wanneroo together with the City of Joondalup have shared responsibilities for the management of nuisance midge within the wetland system of the Yellagonga Regional Park.

7.2 Commitment:

The partners of the strategy have agreed to commit to a further period of five (5) years under the Midge Agreement, with all partners maintaining the existing shared cost agreement.

7.3 Funding Percentage:

The City of Joondalup and the City of Wanneroo will each contribute 25 percent of the funding. The Department of Parks and Wildlife, on behalf of the State Government, will contribute the remaining 50 percent of the funding.

7.4 Budget:

The budget consists of an annual total of \$246,000 with the State Government contributing \$123,000 per annum and the Local Government partners each contributing \$61,500 per annum, comprising of the following:

7.4.1 Monitoring:

Funding to support a larval monitoring program to provide quantitative data. This will determine when treatments are required and ensure optimum effectiveness. This program will also involve a water-monitoring program to provide information on the physical and chemical characteristics of the lake water, to determine the lake's nutrient status and habitat factors influencing the midge population. Sampling of surface water for nutrient analysis will be in consideration of the activities undertaken in association with the Yellagonga Integrated Catchment Management Plan 2015-2019.

Monitoring also includes equipment costs and watercraft maintenance/repair.

7.4.2 Nuisance Reduction:

Funding for chemical treatment of the wetland system of the Yellagonga Regional Park. Lake Joondalup to have a maximum of four (4) treatments per year. Lake Goollelal to have a maximum of two (2) treatments per year. Any additional treatments will require approval from the Director General, Department of Parks and Wildlife.

Nuisance reduction can also involve other intervention strategies to reduce the reliance on chemical treatment.

Lake Goollelal will be subject to the trial treatment of Methoprene as described within the Action Plan.

7.4.3 Research:

Funding for research projects to facilitate a better understanding of the factors contributing to seasonal midge plagues within the wetland system of the Yellagonga Regional Park, evaluating alternate intervention strategies for control of midge and an understanding of the nutrient contributors within the catchment.

7.4.4. Public Information and Education:

Funding public information and education to assist the community with the management of nuisance midge. This may include responses to midge nuisance complaints, maintaining an information package and conducting public education programs.

8.0 MANAGEMENT

8.1 General Management:

8.1.1 A Midge Steering Group is established between the Department of Parks and Wildlife, the City of Wanneroo and the City of Joondalup. The purpose of the Midge Steering Group is to discuss and make recommendations on any issues pertaining to the Midge Agreement. Meetings will be held as required, to discuss the management process of the Midge Agreement.

8.1.2 The Manager of Regional Parks Unit of Department of Parks and Wildlife, Coordinator Health Services of City of Wanneroo and Principal Environmental Health Officer of City of Joondalup are the representatives of each of the partner agencies and are responsible for exercising any decision making powers.

8.2 Financial Management:

8.2.1 On signing the Midge Agreement, the partners will ensure the availability of the required funds for the duration of the Midge Agreement.

8.2.2 For the purpose of transparency in process and accountability, the City of Wanneroo will be responsible for coordinating the invoicing of expenditures incurred in implementation of the Midge Agreement. The remaining partners will ensure that funds are available and will be invoiced on all expenditures in accordance with the Action Plan, as outlined in the Midge Agreement.

8.2.3 All funds are to be acquitted on an annual basis and not carried over.

9.0 REVIEW

9.1 Initiate a meeting inviting all partners of the Midge Agreement to discuss and make recommendations to the details regarding the Midge Agreement and accompanying Action Plan.

Review date: Annually

9.2 An annual audit is to be undertaken by all partners identifying all actions outlined in the Action Plan and related outcomes of each midge season. The audit will provide feedback on the effectiveness of the Midge Agreement and also assist with the required ongoing annual review of the Midge Agreement and Action Plan.

Review date: Annually

9.3 An annual financial report is to be produced by the City of Wanneroo and presented to all partners following each midge season, capturing all expenditures of the Midge Agreement. The report will assist in reviewing the financial management of the Midge Agreement and consider any funding arrangement increases for future budgets.

Review date: Annually

9.4 When the current five (5) year strategy expires on 30 June 2020, it will be required to initiate a meeting inviting all partners to review the possible renewal of the Midge Agreement for a further five (5) year period.

Review date: October 2019

10.0 DISPUTE RESOLUTION PROCESS

Should a dispute arise between any of the partners of the Midge Agreement on a particular issue, the following resolution process should be followed:

10.1 The partners are required to meet to discuss the issue and will use their best endeavours to negotiate a mutually acceptable resolution.

10.2 Where such a resolution is not successful, the Chief Executive Officers (Local Government parties) and the Director General (State Government party) or a nominee of each of these parties will meet to consider the areas of disagreement and seek a resolution.

11.0 BREAK CLAUSE

11.1 The Midge Agreement will operate from the date of signing to 30 June 2020.

11.2 Prior to this date the partners may elect to:

11.2.1 Modify the Midge Agreement; or

11.2.2 Terminate the Midge Agreement;

by written mutual agreement.

11.3 Any amendments/modifications or request for termination must be proposed in writing and addressed to all partners of the Midge Agreement for review and possible adoption. The decision will need to be a unanimous vote amongst all the partners.

12.0 AGREEMENT IN GOOD FAITH

The partners of the Midge Management Strategy Partnership Agreement 2015-2020, will commit to an effective and sustainable partnership for the purpose of managing nuisance midge within the wetland system of the Yellagonga Regional Park.

Signature: _____ **Date:** _____

CHIEF EXECUTIVE OFFICER
City of Joondalup

Signature: _____ **Date:** _____

CHIEF EXECUTIVE OFFICER
City of Wanneroo

Signature: _____ **Date:** _____

DIRECTOR GENERAL
Department of Parks and Wildlife

Actions		
Action Item	Responsible Parties	Timing
<p>Midge Steering Group A Midge Steering Group is established between the Department of Parks and Wildlife (DPaW), 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 Agreement.</p>	DPaW, CoW, CoJ	Upon implementation of the Midge Management Strategy Partnership Agreement 2015-2020.
<p>Midge Larvae Monitoring Undertake a midge larval monitoring program to better monitor trends and to predict when treatments will be necessary and most effective. The monitoring program will be consistent with other programs on the Swan Coastal Plain.</p>	DPaW, CoW, CoJ	Larvae monitoring is seasonal typically between August and January. Larvae monitoring to occur weekly during this period, alternating between Lake Joondalup and Lake Goollelal, with an increase in frequency as required.
<p>Water Monitoring Water monitoring will provide information to better understand the lake's nutrient status and habitat factors influencing the midge population. Water monitoring will include temperature, pH, conductivity and water level on each midge larvae monitoring occasion. Water sampling to determine the physical and chemical characteristics of the lake will be undertaken where required. No water monitoring will be necessary where existing monitoring is being carried out through projects of the Yellagonga Integrated Catchment Management Plan (YICMP) that captures the required information.</p>	DPaW, CoW, CoJ	Temperature, water level, pH and conductivity will be recorded at each larvae monitoring occasion (typically weekly). Water sampling for analysis of chemical parameters to only occur where YICMP does not capture required information. This would form part of a research project.
<p>Treatment Lake Joondalup will receive up to a maximum four (4) treatments per season using Gray Bate to reduce midge larvae populations. Lake Goollelal will receive up to a maximum of two (2) Gray Bate treatments. The use of Gray Bate at Lake Goollelal will be dependent upon the potential use of Methoprene in lieu of Gray Bate. To this regard, a Methoprene trial is to take place during 2015/16, subject to the midge larvae numbers requiring chemical intervention and approval by the Australian Pesticides and Veterinary Medicines Authority. Where Methoprene is able to be applied, no Gray Bate treatments are scheduled to occur. Determining factors for treatment shall include high numbers of midge larvae and a verified adult midge nuisance.</p>	DPaW, CoW, CoJ	Treatments arranged as required.

<p>Watercraft Maintenance Servicing/repair of watercraft used for midge larvae monitoring.</p>	<p>DPaW, CoW, CoJ</p>	<p>As required.</p>
<p>Research Midge related research projects may include;</p> <ul style="list-style-type: none"> ➤ The review of existing data to determine correlations between water quality, temperature, weather and other factors, with midge larvae numbers. ➤ Evaluating the feasibility for alternate intervention strategies. ➤ Further research into the influence of water quality, habitat, or other factors on the midge life cycle. ➤ Research relating to predictive capabilities for midge emergence that could enable better control. ➤ Research relating to the nutrient budget of the wetlands and linkage with nutrient contributors within the catchment. ➤ Trial of Methoprene to control midge larvae within Lake Goollelal. 	<p>DPaW, CoW, CoJ</p>	<p>Midge research projects will typically be annually or in stages over consecutive financial years. The trial or use of Methoprene may be in lieu of any additional research project occurring for a particular financial year.</p>
<p>Public Education Public education will include;</p> <ul style="list-style-type: none"> ➤ The development and/or distribution of midge related information. ➤ Providing electronic access to information including websites. ➤ Responding to and maintaining records of resident enquiries and concerns on adult midge numbers. ➤ Encourage/educate residents to focus on the overall care of the catchment. ➤ DPaW representative to attend the Yellagonga Regional Park Community Advisory Committee Meetings. 	<p>DPaW, CoW, CoJ</p>	<p>As required.</p>
<p>Yellagonga Integrated Catchment Management Plan Support implementation of the Yellagonga Integrated Catchment Management Plan (YICMP) for the Yellagonga Regional Park. Research projects to be in consideration of existing or future projects associated with the YICMP. Funding can be utilised in support of YICMP projects that have midge related synergies, where appropriate.</p>	<p>DPaW, CoW, CoJ</p>	<p>As required.</p>
<p>Reporting Maintain an annual report of midge related activities. Produce an annual report to capture all expenditures.</p>	<p>DPaW, CoW, CoJ CoW</p>	<p>Annually</p>

Budget Allocation		
<p>Funding Arrangements State and Local Governments have agreed to providing, allocating and managing funding for the Midge Agreement.</p> <p>Funding allocation is based on a 50% contribution from DPaW on behalf of the State Government and 25% contribution each from the City of Wanneroo and the City of Joondalup.</p> <p>Funding Arrangements consider a Methoprene trial for Lake Goollelal and the potential continuing use of Methoprene in subsequent seasons (Funding Model A).</p> <p>An alternate funding model is provided should Methoprene treatment be unable to occur or is determined to be unsuccessful for the treatment of midge (Funding Model B).</p> <p>Other intervention strategies may be considered as part of the budget allocation for treatment.</p> <p><i>Note that the overall budget reflects the worst case scenario with maximum treatments. It is unlikely that Lake Joondalup requires 4 treatments in a season. Also assumes highest application rate relative to water levels.</i></p>	Funding Model A	
	Gray Bate <i>(4 treatments of Lake Joondalup)</i>	\$131,000
	Methoprene <i>(1 treatment of Lake Goollelal)</i>	\$51,000
	Treatment Application <i>(eg helicopter usage – considers 4 treatments of Lake Joondalup and 1 treatment of Lake Goollelal)</i>	\$53,000
	Monitoring/Equipment/Water Craft Maintenance <i>(includes equipment for midge and water sampling, and water testing)</i>	\$6,000
	Public Education	\$5,000
	TOTAL	\$246,000
	Funding Model B	
	Gray Bate <i>(4 treatments of Lake Joondalup)</i>	\$131,000
	Gray Bate <i>(2 treatments of Lake Goollelal)</i>	\$11,000
	Treatment Application <i>(eg helicopter usage – considers 4 treatments of Lake Joondalup and 2 treatments of Lake Goollelal)</i>	\$60,000
	Research Projects	\$33,000
Monitoring/Equipment/Water Craft Maintenance <i>(includes equipment for midge and water sampling, and water testing)</i>	\$6,000	
Public Education	\$5,000	
TOTAL	\$246,000	