

ANNUAL NUTRIENT SURVEY for Local Government Authorities

2023 City of Armadale Nutrient Management Score Card

The Swan and Canning River systems, and many wetlands, are suffering from regular, and sometimes toxic, algal blooms. These blooms occur due to excessive inputs of nutrients, particularly phosphorus and nitrogen, combined with low water flows and warm temperatures. Local authorities are responsible for nutrient use and management on turfed areas and in reserves, in drainage systems and in local planning decisions and thus have the opportunity to lead the community by setting examples in best practice.

Each year Local Government Authorities (LGAs) in Perth are surveyed on their nutrient practices by the Phosphorus Awareness Project of the South East Regional Centre for Urban Landcare (SERCUL). The survey is broken up into different sections including nutrient monitoring, fertiliser applications to foreshore areas, nutrient management, water quality monitoring, development control and nutrient education. The results from the questions asked in the survey have been used to provide a Score Card for each LGA that responded and clearly show how the LGA is performing and where and how improvements can be made. LGAs should also refer to the Annual Nutrient Survey for Local Government Authorities Results 2023 report (www.sercul.org.au/fertilisewise) for further recommendations on how to implement nutrient Best Management Practices (BMPs).

Please note that not all of the questions asked in the survey were used to determine the overall best management practice score. Any additional information about nutrient practices provided by an LGA is summarised at the end of this scorecard.

2023 Overall Best Management Practice Score – 54% AVERAGE

The City of Armadale has been average in implementing nutrient BMPs in 2022/23. Further improvements can be made in the areas of nutrient monitoring, fertiliser applications, nutrient management, water quality monitoring and development control.

RESPONSE KEY:

- BMP has been achieved
- BMP has NOT been achieved
- Not Applicable
- Response not assessed

BEST MANAGEMENT PRACTICE (BMP) KEY:

- Excelling
- Above Average
- Average
- Below Average
- Unsatisfactory

NUTRIENT MONITORING

QUESTION	RESPONSE	SECTION BMP
Were regular soil nutrient tests, soil moisture tests &/or leaf tissue analyses conducted in any grass/turf areas?	YES	EXCELLING
Was analysis conducted by a lab affiliated with ASPAC?	YES	
Was plant available phosphorus in the soil measured using an appropriate test?	YES	
Were rates of phosphorus determined by soil testing and Phosphorus Retention Index (PRI) results?	YES	

The City conducted soil and moisture testing and leaf tissue analysis in two of its fertilised and irrigated areas - active turf areas and irrigated parks. No testing or analyses was performed in foreshore areas, which were fertilised and irrigated. It is recommended that the City undertakes regular soil testing and leaf tissue analysis of all turf areas that are fertilised and moisture testing if these areas are irrigated.

FORESHORE FERTILISER APPLICATIONS

QUESTION	RESPONSE	SECTION BMP
Are there grassed/turfed foreshore areas within the LGA?	YES	BELOW AVERAGE
Was fertiliser added to grassed/turfed foreshore reserves?	YES	
Did the fertiliser contain phosphorus?	YES	
Was it a controlled release solid fertiliser or a liquid fertiliser applied to foliage?	NO	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	YES	
Was any nutrient testing completed of foreshore areas?	NO	

Foreshore areas outside a buffer zone of 100 m were fertilised and irrigated with a complete inorganic (phosphorus containing), slow release fertiliser. Areas outside the buffer zone should be fertilised and irrigated according to soil and moisture testing and leaf tissue analysis, which was not done in 2022/23. Any fertiliser applied should be phosphorus free and a controlled release solid fertiliser or a liquid fertiliser applied to foliage.

General Fertiliser Recommendations:

It is recommended that fertiliser only be applied in spring and autumn as summer fertilising encourages the overuse of water and turf may grow excessively, while fertiliser applied during winter can be washed into stormwater drains or leached into groundwater. Many grass species are also dormant or semi-dormant in winter. Employees involved in turf management would benefit from attending SERCULs Fertilise Wise Fertiliser Training in 2024.

NUTRIENT MANAGEMENT

QUESTION	RESPONSE	SECTION BMP
Were structural BMPs in place to reduce nutrients entering waterbodies?	NO	BELOW AVERAGE
Were non-structural measures in place to prevent nutrients from grass clippings entering waterbodies directly or via stormwater drains?	YES	
Are there deciduous trees in parks and streetscapes?	YES	
Were non-structural measures in place to prevent nutrients from deciduous leaves entering waterbodies directly or via stormwater drains?	YES	
Were non-structural measures in place to prevent nutrients from sediment entering waterbodies directly or via stormwater drains?	NO	
Was a Nutrient and Irrigation Management Plan (NIMP) implemented for streetscapes?	NO	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	NO	

The City stated that they do not have structural BMPs in place, despite indicating in 2022 that they did. They had various non-structural measures in place to prevent nutrients from grass clippings and deciduous leaves entering waterbodies directly or via stormwater drains, however indicated that they do not have sediment measures in place. If it is correct that the City has no structural BMPs or non-structural measures to prevent sediment entering waterbodies, it is recommended that they implement some. No further deciduous trees should be planted on road verges or near water bodies. A NIMP should be implemented for streetscapes and a local plants policy put in place to use local native plants as the first choice in landscaping.

WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	YES	BELOW AVERAGE
Were stormwater drains regularly monitored for nutrient levels?	NO	
Were compensating basins regularly monitored for nutrient levels?	NO	

The City regularly monitored wetlands for nutrient levels, but did not report the results to the community. It is recommended that the City also monitor stormwater drains and compensating basins for nutrient levels to enable them to identify and manage potential sources of nutrients as they arise and report the results of all water quality monitoring to the local community. SERCUL's Water Quality Monitoring Team can assist LGAs with undertaking this work and can be contacted on 9458 5664.

DEVELOPMENT CONTROL

QUESTION	RESPONSE	SECTION BMP
Were there provisions in the Town Planning Scheme or Planning Policies to enforce environmental conditions on development?	NO	UNSATISFACTORY
Did the LGA impose conditions on development which included Nutrient and Irrigation Management Plans (NIMPs)?	NO	
Did the LGA have mechanisms in place to regulate sediment management?	NO	

It is recommended that the City impose environmental conditions on development, including requiring NIMPs. They should monitor these conditions for compliance and prosecute developers that are not complying. They should also have mechanisms in place to regulate sediment management. Information on appropriate mechanisms can be found at www.perthnrm.com/resource/sediment-management/.

NUTRIENT EDUCATION

QUESTION	RESPONSE	SECTION BMP
Were dog poo bins and bags provided in parks and foreshore reserves?	YES	EXCELLING
Were measures taken to educate the public about not feeding bread to waterbirds in foreshore reserves and parks?	YES	
Were ratepayers provided with advice on best practice in fertiliser management according to soil type?	YES	
Was education provided about nutrient sources to waterways?	YES	

It is recommended that the City continue to implement their current practices in this area. In addition to what is currently being undertaken, SERCUL has relevant information on its website that can be linked to and can be engaged to deliver presentations about nutrients and their impact on waterways to schools, business and community groups through its Phosphorus Awareness Project. For more information on this education program and how it can assist the City with nutrient education contact Natasha Bowden on 9458 5664.