

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Stirling 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](http://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 – 88% EXCELLING

The City of Stirling has excelled in implementing nutrient Best Management Practices in 2022/23. Further improvements can be made in the areas of nutrient monitoring, fertiliser applications, nutrient management and water quality monitoring.

#### 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 tests, leaf tissue analysis and moisture testing of sports fields and golf courses, which were both irrigated and fertilised, and it is recommended that this practice continue. They applied fertiliser to unirrigated grass and foreshore areas, but did not perform any testing or analysis. 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	AVERAGE
Was fertiliser added to grassed/turfed foreshore reserves?	YES	
Did the fertiliser contain phosphorus?	NO	
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	

Despite stating that water soluble, quick release solid fertiliser was not used in foreshore areas in the survey, the brand of fertiliser the City applied was Sure Green Hi N which contains a combination of quick and slow release nitrogen. Outside the buffer zone, if fertiliser is required it should be added according to soil testing and leaf tissue analysis and should be phosphorus free and a controlled release, low water soluble fertiliser if in solid form or a liquid applied to foliage. Moisture testing should also be undertaken.

#### General Fertiliser Recommendations:

Analysis of the amounts of fertiliser applied to active turf, passive turf and foreshore areas indicates that some fertilisers were being applied at a rate above the maximum recommended single application rate of 40 kg/ha of nitrogen, however where it was in a controlled or slow release form this may be acceptable. It is recommended that the City ensure that each single application of quick release nitrogen is below the maximum recommended amount. 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?	YES	EXCELLING
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?	YES	
Was a Nutrient and Irrigation Management Plan (NIMP) implemented for streetscapes?	YES	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	NO	

It is recommended that no further deciduous trees be planted on road verges or near waterbodies and that the City implement a policy to use local native plants as the first choice when landscaping.

## WATER QUALITY MONITORING

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

The City regularly monitored its wetlands and compensation basins for nutrient levels, but did not report the results to the local community. It is recommended that the City also regularly monitor stormwater drains for nutrient levels and report the results of all monitoring to their local community.

## DEVELOPMENT CONTROL

QUESTION	RESPONSE	SECTION BMP
Were there provisions in the Town Planning Scheme or Planning Policies to enforce environmental conditions on development?	YES	EXCELLING
Did the LGA impose conditions on development which included Nutrient and Irrigation Management Plans (NIMPs)?	YES	
Did the LGA have mechanisms in place to regulate sediment management?	YES	

It is recommended that the City continue to implement their current practices including monitoring developments for compliance. If developers are found not to be in compliance they should be prosecuted.

## 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 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.