

# 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](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 – 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/](http://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.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 Town of Bassendean 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 – 62% ABOVE AVERAGE

The Town of Bassendean has been above 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?	NO	UNSATISFACTORY
Was analysis conducted by a lab affiliated with ASPAC?	N/A	
Was plant available phosphorus in the soil measured using an appropriate test?	N/A	
Were rates of phosphorus determined by soil testing and Phosphorus Retention Index (PRI) results?	N/A	

It is recommended that the Town or their Turf Consultant conduct regular soil tests and leaf tissue analysis in all fertilised areas to determine accurate nutrient levels before applying fertiliser. In irrigated areas that are fertilised they should also conduct regular soil moisture tests. It is recommended that employees involved in turf management attend SERCULs Fertilise Wise Fertiliser Training in 2024.

## FORESHORE FERTILISER APPLICATIONS

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

The Town did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### General Fertiliser Recommendations:

The fertilisers being added to active and passive turf contained phosphorus and were being applied at rates above the maximum single application rate for water-soluble phosphorus in a low PRI soil (5 kg/ha). It was not specified how much of that phosphorus was in a water-soluble form, though one was a controlled release and the other a slow release fertiliser. As the PRI of the soil was not determined and soil testing and leaf tissue analysis not performed, the amount required and able to be applied in a single application without leaching, if any, could not be accurately assessed. It is recommended that regular soil and leaf tissue testing be conducted prior to the application of any fertiliser. In irrigated areas they should also conduct soil moisture tests. 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?	NO	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	YES	

It is recommended that no further deciduous trees be planted on road verges or near water bodies. A NIMP should be implemented for streetscapes.

## WATER QUALITY MONITORING

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

The Town regularly monitored stormwater drains for nutrient levels but did not report the results to the local community. It is recommended that the Town also monitor wetlands and compensating basins for nutrient levels 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?	YES	ABOVE AVERAGE
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?	YES	

It is recommended that the Town imposes conditions requiring NIMPs on developments, monitors these for compliance and prosecutes developers that are not complying.

## 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 Town 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 Town with nutrient education contact Natasha Bowden on 9458 5664.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Bayswater 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 – 100% EXCELLING

The City of Bayswater should be commended for having all of the assessed nutrient Best Management Practices in place. Further improvements can be made in the area of fertiliser applications and nutrient management.

#### 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 performed regular leaf tissue analysis and soil and moisture testing of all its fertilised areas - sports fields, golf courses, irrigated parks and foreshore areas. It is recommended that this testing regime continue.

## FORESHORE FERTILISER APPLICATIONS

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

The City did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### General Fertiliser Recommendations:

Analysis of the fertiliser application information provided indicates that Urea, which is a quick release solid fertiliser, was applied to active turf in one application during summer at a rate almost three times the maximum rate recommended for a single application of nitrogen which is 40 kg/ha. It is recommended that the City not apply this fertiliser at rates above 40 kg/ha of nitrogen in a single application, but rather do multiple applications at a lower rate. 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?	YES	

It is recommended that the City continue to implement its current practices, with the exception that no further deciduous trees be planted on road verges or near waterbodies.

## WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	YES	EXCELLING
Were stormwater drains regularly monitored for nutrient levels?	YES	
Were compensating basins regularly monitored for nutrient levels?	YES	

It is recommended that the City continue to implement their current practices, including the reporting of results to the 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 and prosecuting those who don't comply.

## 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.

## ADDITIONAL INFORMATION PROVIDED

Providing residents with a Local Native Plants Guide specific to the area.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Belmont 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 – 87% EXCELLING

The City of Belmont has excelled in implementing nutrient BMPs in 2022/23. Further improvements can be made in the areas of nutrient monitoring, fertiliser applications, nutrient management, development control 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 performed soil and moisture testing and leaf tissue analysis of sports fields and irrigated parks, which were both fertilised and irrigated. No testing or analyses was performed in foreshore areas which were also 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 were irrigated and fertilised with a 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 performed in 2022/23. Any fertiliser applied in foreshore areas should be phosphorus free and a controlled release solid fertiliser or a liquid fertiliser applied to foliage.

#### General Fertiliser Recommendations:

Analysis of the fertiliser application information provided indicates that the City applied MP Eco Pro Series NPK fertiliser to active turf at rates above the maximum recommended single application rate of 40 kg/ha of nitrogen. As it is a slow release fertiliser, the nitrogen may not have all been in a readily available form and therefore these rates may be acceptable. Calculations should be performed to ensure the amount of quick release nitrogen is not above the maximum recommended single application rate. 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?	NO	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	YES	

It is recommended that no further deciduous trees be planted on road verges or near waterbodies. It is recommended that a NIMP be implemented for streetscapes.

## WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	YES	EXCELLING
Were stormwater drains regularly monitored for nutrient levels?	YES	
Were compensating basins regularly monitored for nutrient levels?	YES	

The City regularly monitored nutrient levels in wetlands, stormwater drains and compensating basins, however, did not report the results to the community. It is recommended that they continue their current monitoring practices but commence reporting of the results to the 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	ABOVE AVERAGE
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?	YES	

It is recommended that the City imposes conditions requiring NIMPs on developments, monitors these for compliance and prosecutes developers that are not complying.

## 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.



# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 Town of Cambridge 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 turf 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 – 86% EXCELLING

The Town of Cambridge has excelled in implementing nutrient BMPs in 2022/23. Further improvements can be made in the areas of nutrient monitoring, fertiliser applications, water quality monitoring and development controls.

#### 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 Town performed soil and moisture testing and leaf tissue analysis of its golf courses, soil and leaf testing of its sports fields and leaf tissue analysis of its irrigated parks. It did not conduct any testing or analysis in foreshore areas. All of these areas are fertilised and irrigated. It is recommended that the Town 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 were irrigated and fertilised with a complete inorganic (phosphorus containing), slow release fertiliser. Areas outside the buffer zone should be fertilised and irrigated according to regular soil and moisture testing and leaf tissue analysis, which was not performed 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:

Analysis of the fertiliser application information indicates that the Town applied Energy Turf, which is a complete inorganic, slow release fertiliser, to passive turf (and perhaps also foreshore areas outside the buffer zone) at rates above the maximum recommended single application rate of water soluble phosphorus for a low to medium PRI soil (<10 kg/ha). It was not specified how much of that phosphorus was water soluble. Without the PRI of the soil being determined and soil testing undertaken on a regular basis, the amount required and able to be applied in a single application without leaching, if any, is not able to be accurately assessed. It is recommended that regular soil and leaf tissue testing be conducted prior to the application of any fertiliser. In irrigated areas the Town should also conduct regular soil moisture tests. 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?	YES	

It is recommended that the Town continue to implement its current practices, including not planting deciduous trees on verges or near waterbodies.

## WATER QUALITY MONITORING

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

The Town regularly monitored nutrient levels in wetlands and reported the results to the community. It is recommended that they also monitor stormwater drains and report the results of this monitoring to the community. The Town reported having no compensating basins under its control.

## DEVELOPMENT CONTROL

QUESTION	RESPONSE	SECTION BMP
Were there provisions in the Town Planning Scheme or Planning Policies to enforce environmental conditions on development?	YES	ABOVE AVERAGE
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?	YES	

It is recommended that the Town imposes conditions requiring NIMPs on developments, monitors these for compliance and prosecutes developers that are not complying.

## 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 Town 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 Town with nutrient education contact Natasha Bowden on 9458 5664.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Canning 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 – 95% EXCELLING

The City of Canning has excelled in implementing nutrient BMPs in 2022/23. Further improvements can be made in the areas of 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 performed soil and moisture testing and leaf tissue analysis of sports fields, golf courses, irrigated parks and foreshore areas, which are all fertilised and irrigated, as well as in unirrigated grass areas, which were not fertilised. It is recommended that this practice continue.

## FORESHORE FERTILISER APPLICATIONS

QUESTION	RESPONSE	SECTION BMP
Are there grassed/turfed foreshore areas within the LGA?	YES	EXCELLING
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?	YES	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	YES	
Was any nutrient testing completed of foreshore areas?	YES	

The City fertilised their foreshore reserves and parks, however as they used a phosphorus free, liquid fertiliser, had a buffer zone in place in which they didn't apply fertiliser and completed soil and moisture testing and leaf tissue analysis prior to fertilising they have excelled in meeting the assessed BMP for foreshore areas. The only recommendation would be not to apply this fertiliser in winter when the kikuyu grass may be dormant.

#### 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 SERCUL's 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?	NO	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	YES	

It is recommended that the practice of not planting deciduous trees on road verges or near water bodies be continued. It is recommended that a NIMP be implemented for streetscapes.

## WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	YES	EXCELLING
Were stormwater drains regularly monitored for nutrient levels?	YES	
Were compensating basins regularly monitored for nutrient levels?	YES	

The City monitored wetlands, stormwater drains and compensating basins for nutrient levels, but did not report the results of this monitoring to the community, which it is recommended they do.

## 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.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 Town of Claremont 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 – 75% ABOVE AVERAGE

The Town of Claremont has been above average in implementing nutrient BMPs in 2022/23. Further improvements can be made in the areas of nutrient monitoring, nutrient management, water quality monitoring, urban development approvals and nutrient education.

#### 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 Town conducted soil and moisture tests and leaf tissue analysis of sports fields and golf courses, which it fertilised and irrigated. It did not conduct any testing of its irrigated parks, which were fertilised. It is recommended that the Town 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	EXCELLING
Was fertiliser added to grassed/turfed foreshore reserves?	NO	
Did the fertiliser contain phosphorus?	N/A	
Was it a controlled release solid fertiliser or a liquid fertiliser applied to foliage?	N/A	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	N/A	
Was any nutrient testing completed of foreshore areas?	NO	

The Town did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### General Fertiliser Recommendations:

Some fertilisers were applied to active turf at rates above the maximum recommended rate for a single application of nitrogen of 40 kg/ha. This may be acceptable for the controlled release fertiliser PGF Pro Z Alpha, however, it needs to be determined if the quick release nitrogen in Momentum, which is a slow release fertiliser, is above this rate. The application rate for SOAR, which is a quick release fertiliser, is just above this rate and needs to be reduced. Yarramilla was applied to turf wickets at rates above the recommended annual application rate of nitrogen for high use active turf of 100 - 200 kg/ha/yr. In future years the amount applied needs to decrease. 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	ABOVE 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?	YES	
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	

It is recommended that no further deciduous trees be planted on road verges or near waterbodies. A NIMP should be implemented for streetscapes and a policy to use local native plants as the first choice in landscaping be put in place.

## WATER QUALITY MONITORING

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

The Town regularly monitors wetlands for nutrient levels and reports the results to their local community. It is recommended that they also monitor and report on the results from stormwater drains. 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?	YES	ABOVE AVERAGE
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?	YES	

It is recommended that the Town imposes conditions requiring NIMPs on developments, monitors these for compliance and prosecutes developers that are not complying.

## NUTRIENT EDUCATION

QUESTION	RESPONSE	SECTION BMP
Were dog poo bins and bags provided in parks and foreshore reserves?	YES	ABOVE AVERAGE
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?	NO	

It is recommended that the Town provide education to residents, relevant businesses and schools about the impact of all nutrient sources, including fertiliser, pet faeces, grass clippings, leaves, sediment, septic tanks and detergent, on waterways and how they get there (ie. via runoff, stormwater drains and groundwater). SERCUL has relevant information on its website that can be linked to and can be engaged to deliver presentations to schools, business and community groups through its Phosphorus Awareness Project. For more information on this education program and how it can assist the Town with nutrient education contact Natasha Bowden on 9458 5664.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Cockburn 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 – 90% EXCELLING

The City of Cockburn has excelled in implementing nutrient BMPs 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 and leaf tissue analysis of its sports fields, which are fertilised and irrigated. It conducted no soil tests, leaf tissue analysis or moisture testing of its irrigated parks, which were fertilised. 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	EXCELLING
Was fertiliser added to grassed/turfed foreshore reserves?	NO	
Did the fertiliser contain phosphorus?	N/A	
Was it a controlled release solid fertiliser or a liquid fertiliser applied to foliage?	N/A	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	N/A	
Was any nutrient testing completed of foreshore areas?	NO	

The City did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### General Fertiliser Recommendations:

Analysis of the fertiliser application information indicates that the City is applying Brilliance fertiliser to active turf at rates above the maximum water-soluble single application rate of phosphorus recommended for even a high PRI soil. Brilliance is a quick release fertiliser so all of this phosphorus has the potential to leach to waterways and as moisture testing is not being conducted this is a concern. 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?	NO	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	YES	

It is recommended that no further deciduous trees be planted on road verges or near waterbodies. A NIMP should be implemented for streetscapes.

## WATER QUALITY MONITORING

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

The City monitors nutrient levels in wetlands, but does not report the results to the local community. It is recommended that the City also regularly monitor stormwater drains and report all water quality monitoring results to the local community. The City reported having no compensation basins under its control.

## 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	

The respondent to the survey stated that the City did not provide any education about nutrient sources, however as SERCUL's Phosphorus Awareness Project was funded to undertake incursions at a local school through a grant provided by the City, this response was changed to a yes. It is recommended that the City continue to implement their current practices, including utilising the education services and resources offered by SERCUL's 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.

## ADDITIONAL INFORMATION PROVIDED

Verge enhancement grants for residents, liquid fertilisers and wetting agent.



# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 Town of Cottesloe 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 – 76% ABOVE AVERAGE

The Town of Cottesloe has been above average in implementing nutrient Best Management Practices in 2022/23. The Town has no freshwater waterbodies within its borders and only has a small area within the Swan Canning Catchment. Therefore, it is unlikely to contribute greatly to the nutrient load of the Swan Canning River System. The Town should, however, be mindful of the nutrients entering the ocean via the groundwater. Improvements are required in the areas of nutrient monitoring, fertiliser applications, nutrient management 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 Town completed soil tests in sports fields and moisture tests in foreshore areas. No soil testing or leaf tissue analysis was performed in irrigated parks or foreshore areas which were both fertilised. It is recommended that the Town 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	ABOVE 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?	YES	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	YES	
Was any nutrient testing completed of foreshore areas?	NO	

The foreshore area in the Town is adjacent to the ocean rather than the river. Foreshore areas outside a buffer zone were irrigated and fertilised with a phosphorus free, controlled release fertiliser. The only testing performed was moisture testing. Areas outside the buffer zone should be fertilised and irrigated according to regular soil and moisture testing and leaf tissue analysis.

#### General Fertiliser Recommendations:

Pro Turf was added to passive turf and Pro Turf NK added to foreshore areas outside the buffer zone at rates above the recommended annual application rate of 50 - 100 kg/ha/yr for premium passive turf. In future years the amount applied needs to decrease to within the rate specified for the type of turf and its usage (premium or minor). 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	ABOVE 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 there 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?	NO	
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 the practice of not planting deciduous trees on road verges or near water bodies be continued. A NIMP for streetscapes and a Local Plants Policy should be implemented.

## WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	N/A	
Were stormwater drains regularly monitored for nutrient levels?	N/A	
Were compensating basins regularly monitored for nutrient levels?	N/A	

The Town has no wetlands or compensation basins under its control and its stormwater is directed to "dry" sumps or soakwells (those that do not intersect the maximum groundwater table).

## DEVELOPMENT CONTROL

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

It is recommended that the Town impose environmental conditions on development including requiring NIMPs. They should monitor these conditions for compliance and prosecute developers that are not complying.

## 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 Town 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 Town with nutrient education contact Natasha Bowden on 9458 5664.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 Town of East Fremantle 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 – 83% EXCELLING

The Town of East Fremantle has excelled in implementing nutrient Best Management Practices in 2022/23. Further improvements can be made in the areas of fertiliser applications, nutrient management, development control and nutrient education.

#### 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	

Soil testing, leaf tissue analysis and moisture testing were conducted in sports fields and irrigated parks, with no testing or analysis completed in foreshore areas. Sports fields were fertilised, but irrigated parks and foreshore areas were not. It is recommended that the Town continue to conduct regular soil testing and leaf tissue analysis of all fertilised areas and moisture testing in those areas that are also irrigated.

## FORESHORE FERTILISER APPLICATIONS

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

The Town did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### General Fertiliser Recommendations:

Analysis of the fertiliser application information indicates that the Town applied Rejuvn8 fertiliser to active turf at rates above the maximum water-soluble single application rate of phosphorus recommended for even a high PRI soil (20 kg/ha). Rejuvn8 is a slow release fertiliser, so it would need to be determined how much of the phosphorus was present in a water-soluble form. Nutrients from slow release fertilisers can be released very quickly when excessive moisture and high temperatures occur in the same period. The Town should adhere to the rates of application specified by the PRI and soil test. 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?	NO	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	YES	

It is recommended that the practice of not planting deciduous trees on road verges or near water bodies be continued. A NIMP should be implemented for streetscapes.

## WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	N/A	
Were stormwater drains regularly monitored for nutrient levels?	N/A	
Were compensating basins regularly monitored for nutrient levels?	N/A	

The Town reported having no wetlands or compensation basins under its control and stated that its stormwater is directed to "dry" sumps or soakwells (those that do not intersect the maximum groundwater table).

## DEVELOPMENT CONTROL

QUESTION	RESPONSE	SECTION BMP
Were there provisions in the Town Planning Scheme or Planning Policies to enforce environmental conditions on development?	YES	ABOVE AVERAGE
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?	YES	

It is recommended that the Town imposes conditions requiring NIMPs on developments, monitors these for compliance and prosecutes developers that are not complying.

## NUTRIENT EDUCATION

QUESTION	RESPONSE	SECTION BMP
Were dog poo bins and bags provided in parks and foreshore reserves?	YES	ABOVE AVERAGE
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?	NO	

It is recommended that the Town provide education to residents, relevant businesses and schools about the impact of all nutrient sources, including fertiliser, pet faeces, grass clippings, leaves, sediment, septic tanks and detergent, on waterways and how they get there (ie. via runoff, stormwater drains and groundwater). SERCUL has relevant information on its website that can be linked to and can be engaged to deliver presentations to schools, business and community groups through its Phosphorus Awareness Project. For more information on this education program and how it can assist the Town with nutrient education contact Natasha Bowden on 9458 5664.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Fremantle 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 – 76% ABOVE AVERAGE

The City of Fremantle has been above average in implementing nutrient Best Management Practices in 2022/23. Further improvements can be made in the areas of nutrient monitoring, fertiliser applications, nutrient management, water quality monitoring, development control and nutrient education.

#### 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	

Soil testing and leaf tissue analysis were conducted in sports fields, irrigated parks, unirrigated grass areas and foreshore areas, all of which were fertilised. Sports fields, irrigated parks and foreshore areas were also 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	EXCELLING
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?	YES	
Was there a buffer zone around waterbodies in which no fertiliser is applied?	YES	
Was any nutrient testing completed of foreshore areas?	YES	

The City fertilised their foreshore reserves and parks, however as they used a phosphorus free, controlled release solid fertiliser, have a buffer zone in place in which they didn't apply fertiliser and completed nutrient testing prior to fertilising they have excelled in meeting the assessed BMP for foreshore areas.

#### 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 SERCUL's Fertilise Wise Fertiliser Training in 2024.

## NUTRIENT MANAGEMENT

QUESTION	RESPONSE	SECTION BMP
Were structural BMPs in place to reduce nutrients entering waterbodies?	NO	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?	YES	

The City reported having no structural BMPs in place to reduce nutrients entering waterbodies during the 2022/23 financial year, despite stating in the 2020/21 survey that they did. If it is correct that the City does not have structural BMPs in place it is recommended that some are installed. It is recommended that no further deciduous trees be planted on road verges or near waterbodies.

## 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 monitored nutrient levels in wetlands, but did not report the results to the local community. It is recommended that the City also regularly monitor stormwater drains and compensating basins and report all water quality monitoring results to the 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	ABOVE AVERAGE
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?	YES	

It is recommended that the City imposes conditions requiring NIMPs on developments, monitors these for compliance and prosecutes developers that are not complying.

## NUTRIENT EDUCATION

QUESTION	RESPONSE	SECTION BMP
Were dog poo bins and bags provided in parks and foreshore reserves?	YES	ABOVE AVERAGE
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?	UNSURE	

It is recommended that the City provide education to residents, relevant businesses and schools about the impact of all nutrient sources, including fertiliser, pet faeces, grass clippings, leaves, sediment, septic tanks and detergent, on waterways and how they get there (ie via runoff, stormwater drains and groundwater). SERCUL has relevant information on its website that can be linked to and can be engaged to deliver presentations 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.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Gosnells 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 – 95% EXCELLING

The City of Gosnells has excelled in implementing nutrient Best Management Practices in 2022/23. Further improvements can be made in the areas of nutrient monitoring, fertiliser applications 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 and leaf tissue analysis of sports fields and irrigated parks, which were both fertilised and irrigated. Soil testing was undertaken in dry grass area which were fertilised. 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	EXCELLING
Was fertiliser added to grassed/turfed foreshore reserves?	NO	
Did the fertiliser contain phosphorus?	N/A	
Was it a controlled release solid fertiliser or a liquid fertiliser applied to foliage?	N/A	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	N/A	
Was any nutrient testing completed of foreshore areas?	NO	

The City did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### 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?	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?	YES	

It is recommended that the City continue to implement its current practices, including not planting deciduous trees on road verges or near water bodies.

## 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 monitored nutrient levels in wetlands and compensating basins, but did not report the results to the local community. It is recommended that the City also monitor stormwater drains and report all water quality monitoring results 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?	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 and prosecuting those who do not comply.

## 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.



# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Kwinana 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 – 83% EXCELLING

The City of Kwinana has excelled in implementing nutrient Best Management Practices in 2022/23. The City does not have any area within the Swan Canning Catchment and therefore does not contribute nutrients to the Swan Canning River System. It does however have important wetlands and ocean within or adjacent to its boundaries and should be mindful of the nutrients entering these waterbodies. 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 completed soil tests and leaf tissue analysis of sports fields and soil tests of irrigated parks, with both of these areas being fertilised and irrigated. Despite fertilising and irrigating foreshore areas, no testing was undertaken in these areas. 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	

The City reported in the survey that they did not apply fertiliser to foreshore areas, however, provided details of the amounts applied to these areas so their response was changed. Areas outside the buffer zone should be fertilised and irrigated according to regular soil and moisture testing and leaf tissue analysis. Any fertiliser that is applied should be phosphorus free and a controlled release, low water soluble fertiliser if in solid form or applied to foliage and left to dry if a liquid.

#### 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. 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	
Were 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?	NO	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	YES	

It is recommended that the practice of not planting deciduous trees on road verges or near water bodies be continued. A NIMP should be implemented for streetscapes.

## 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 monitored nutrient levels in wetlands, but did not report the results to the local community. It is recommended that the City also regularly monitor stormwater drains and compensating basins and report all water quality monitoring results to the local community. Any monitoring program implemented should be ongoing to identify issues as they arise. SERCULs 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?	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, with the exception that they monitor developments for compliance and prosecute developers found to be non-compliant.

## 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.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Melville 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 turf 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 – 73% ABOVE AVERAGE

The City of Melville has been above average in implementing nutrient Best Management Practices 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 conducts soil tests, moisture testing and leaf tissue analysis at sports fields, golf courses and irrigated parks and it is recommended that this practice continue. It does not conduct any testing or analysis of foreshore and dry grass areas, despite fertilising both areas. 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?	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?	NO	
Was any nutrient testing completed of foreshore areas?	NO	

A buffer zone immediately adjacent to waterbodies should be established in which no fertilising takes place. The width of the buffer zone should be determined by factors such as the site condition and function, however, if possible, it should be at least 30 - 50 m around natural waterbodies. Outside the buffer zone, if fertiliser is required according to soil testing and leaf tissue analysis, it should be phosphorus free and a controlled release, low water soluble fertiliser if in solid form or applied to foliage and left to dry if a liquid.

#### General Fertiliser Recommendations:

Fertilisers were applied at rates above the maximum recommended single application rate of nitrogen of 40 kg/ha, however where a controlled release fertiliser is being used higher rates may be acceptable. Sure Green Max is a slow release fertiliser so it would need to be determined how much of the nitrogen is readily available to know if it is above recommended rates, but it is being applied in foreshore areas where no testing was completed within the last two financial years. Nutrients can be released from slow release fertilisers very quickly when excessive moisture and high temperatures occur in the same period. It is also being added to foreshore areas at rates above the recommended annual application rate of 0 kg/ha/yr for grass buffers. The City should adhere to the recommended annual application rates for the types of turf it is managing. 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	ABOVE AVERAGE
Were non-structural measures in place to prevent nutrients from grass clippings entering waterbodies directly or via stormwater drains?	YES	
Were 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?	NO	
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. A NIMP should be implemented for streetscapes and a policy to use local native plants as the first choice in landscaping enacted.

## 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 monitored nutrient levels in wetlands and reported the results to the local community. It is recommended that the City implement a monitoring program for stormwater drains and compensating basins and report the results to the local community. SERCULs 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?	YES	ABOVE AVERAGE
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?	YES	

It is recommended that the City impose conditions requiring NIMPs on developments, monitors these for compliance and prosecutes developers that are not complying.

## 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.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 Shire of Mundaring 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 – 80% ABOVE AVERAGE

The Shire of Mundaring just missed out on a score of excelling for implementing nutrient Best Management Practices in 2022/23. It should be noted that the soil types present in the Shire of Mundaring mean they are far less likely to leach nutrients than those on the Swan Coastal Plain (see comments under Additional Information). 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	ABOVE AVERAGE
Was analysis conducted by a lab affiliated with ASPAC?	YES	
Was plant available phosphorus in the soil measured using an appropriate test?	NO RESPONSE	
Were rates of phosphorus determined by soil testing and Phosphorus Retention Index (PRI) results?	YES	

The Shire did not provide a response to the question of which method was used to measure plant available phosphorus in the soil and this affected their score. An appropriate test would be the Colwell, Olsen, Bray or MLSN (Mehlich III). Soil tests and leaf tissue analysis were conducted in sports fields and irrigated parks, which were both fertilised and irrigated. It is recommended that regular moisture tests be undertaken in areas that are fertilised and irrigated. The Shire reported having no foreshore areas.

## FORESHORE FERTILISER APPLICATIONS

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

The Shire reported having no foreshore areas.

#### 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 SERCUL's 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	
Were 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?	NO	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	YES	

It is recommended that no further deciduous trees be planted on road verges or near water bodies. A NIMP should be implemented for streetscapes.

## 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 Shire monitored nutrient levels in wetlands, but did not report the results to the local community. It is recommended that the City implement a monitoring program for stormwater drains and compensating basins and report the results to the local community. SERCULs 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?	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 Shire 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 Shire 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 Shire with nutrient education contact Natasha Bowden on 9458 5664.

## ADDITIONAL INFORMATION PROVIDED

Development and council adoption of Watercourse Hierarchy Strategy. The strategy explains that the geomorphology of the Shire is entirely different to that of the Swan Coastal Plain (SCP). The laterite soils overlying granite have perennial and intermittent drainage compared to the shallow groundwater and nutrient-leaching soils of the SCP. Stormwater management requires detention systems to slow stormwater runoff and reduce peak velocities which can lead to erosion rather than the infiltration and bioretention systems used to treat stormwater on the SCP. The highly phosphorus-fixing soils in the hills bind phosphorus and as such phosphorus levels in run-off from Mundaring catchments are currently within DBCA acceptable short and long-term targets. Consequently, water quantity and velocity management are more significant than water quality (nutrient) management.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Nedlands 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 – 94% EXCELLING

The City of Nedlands 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 nutrient education.

#### 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 on sports grounds, golf courses and foreshore areas and soil and moisture tests on irrigated parks. Regular leaf tissue analysis should also have been performed on irrigated parks to determine if the application of fertiliser was required by the turf.

## FORESHORE FERTILISER APPLICATIONS

QUESTION	RESPONSE	SECTION BMP
Are there grassed/turfed foreshore areas within the LGA?	YES	EXCELLING
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?	YES	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	YES	
Was any nutrient testing completed of foreshore areas?	YES	

The City fertilised their foreshore reserves and parks, however as they used phosphorus free, controlled release solid fertiliser and liquid fertiliser applied to foliage, have a buffer zone in place in which they didn't apply fertiliser and completed nutrient testing prior to fertilising they have excelled in meeting the assessed BMP for foreshore areas.

#### General Fertiliser Recommendations:

Analysis of the ICL Pro Turf fertiliser applied to active turf and foreshore areas outside the buffer zone indicates that nitrogen was being applied at rates above the maximum recommended rate of 40 kg/ha for a single application, although as it is a controlled release fertiliser this may be acceptable. Living Turf fertiliser, however, was being added to passive turf at rates above the recommended annual application rate of nitrogen of 50 - 100 kg/ha/yr for premium passive turf. The City should adhere to the recommended annual application rates for the types of turf it is managing. 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?	YES	

It is recommended that the City continue to implement its current practices, with the exception that no further deciduous trees be planted on road verges or near waterbodies.

## WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	N/A	
Were stormwater drains regularly monitored for nutrient levels?	N/A	
Were compensating basins regularly monitored for nutrient levels?	N/A	

The City has reported that it has no wetlands or compensating basins under its control and its stormwater is directed to "dry" sumps or soakwells (those that do not intersect the maximum groundwater table).

## 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	ABOVE AVERAGE
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?	NO	

It is recommended that the City provide more specific advice on best practice in fertiliser management according to soil type and that it implement education about nutrient sources to waterways. SERCUL has Fertilise Wise, Grow Local Plant and other general nutrient awareness brochures that can be sourced for free from SERCUL and distributed to ratepayers at LGA locations. The City can also link its website to the Fertilise Wise ([www.sercul.org.au/fertilisewise](http://www.sercul.org.au/fertilisewise)) and Phosphorus Awareness Project ([www.sercul.org.au/our-projects/pap/](http://www.sercul.org.au/our-projects/pap/)) pages of the SERCUL website. SERCUL can also be engaged to deliver presentations 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.



# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Perth 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 – 79% ABOVE AVERAGE

The City of Perth has been above average in implementing nutrient Best Management Practices in 2022/23. Further improvements can be made in the areas of fertiliser applications, nutrient management, water quality monitoring, development control and nutrient education.

#### 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 conducts soil tests, leaf tissue analysis and moisture testing at irrigated parks and foreshore areas and it is recommended that this practice continues. The City reported having no sports fields or golf courses under its control.

## FORESHORE FERTILISER APPLICATIONS

QUESTION	RESPONSE	SECTION BMP
Are there grassed/turfed foreshore areas within the LGA?	YES	ABOVE 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?	YES	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	NO	
Was any nutrient testing completed of foreshore areas?	YES	

A buffer zone immediately adjacent to waterbodies should be established in which no fertilising takes place. The width of the buffer zone should be determined by factors such as the site condition and function, however, if possible, it should be at least 30 - 50 m around natural waterbodies. Outside the buffer zone, the current regime of using a phosphorus free fertiliser that is either a controlled release, low water soluble solid or a liquid applied to foliage, and applying it according to soil and moisture testing and leaf tissue analysis is acceptable.

#### 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?	YES	ABOVE 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?	YES	
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	

It is recommended that no further deciduous trees be planted on road verges or near waterbodies. A NIMP should be implemented for streetscapes as well as a policy 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	EXCELLING
Were stormwater drains regularly monitored for nutrient levels?	YES	
Were compensating basins regularly monitored for nutrient levels?	N/A	

The City regularly monitored wetlands and stormwater drain for nutrient levels, but did not report the results to their local community and it is recommended they adopt this practice. The City reported that it doesn't have any compensation basins under its control.

## DEVELOPMENT CONTROL

QUESTION	RESPONSE	SECTION BMP
Were there provisions in the Town Planning Scheme or Planning Policies to enforce environmental conditions on development?	YES	ABOVE AVERAGE
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?	YES	

It is recommended that the City impose conditions requiring NIMPs on developments, monitors these for compliance and prosecutes developers that are not complying. It is recognised that the City is often not the approving authority for large-scale developments in the city (more often being the State Government).

## NUTRIENT EDUCATION

QUESTION	RESPONSE	SECTION BMP
Were dog poo bins and bags provided in parks and foreshore reserves?	YES	ABOVE AVERAGE
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?	NO	

It is recommended that the City provide education to residents, relevant businesses and schools about the impact of all nutrient sources, including fertiliser, pet faeces, grass clippings, leaves, sediment, septic tanks and detergent, on waterways and how they get there (ie. via runoff, stormwater drains and groundwater). SERCUL has relevant information on its website that can be linked to and can be engaged to deliver presentations 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.

## ADDITIONAL INFORMATION PROVIDED

Minimal Level of Sustainable Nutrition program in place for all turf areas as part of the soil and leaf tissue testing undertaken for the City. The MLSN program ensures turf areas do not use specific nutrients unless required past a minimum level. Irrigation Central Control locks irrigation programs in the event of rainfall events.

This not only works to conserve water but ensures turf is not watered past field capacity and reduces nutrient leaching. While the City does not have an endorsed policy on WA natives as a first choice in public and private landscaping we have a number of high-profile gardens that are thematically planned around using WA natives and endemic riverine species. New garden projects preference the use of West Australian plant species. The City's spring displays are now WA native inspired as are the summer displays. The City's Verge Transformation Guidelines preference endemic West Australian species.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Rockingham 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 – 96% EXCELLING

The City of Rockingham has excelled in implementing nutrient Best Management Practices in 2022/23. Further improvements can be made in the areas of 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, irrigated parks, and foreshore areas, which were all fertilised and irrigated. It is recommended that this practice continue.

## 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?	NO	
Was any nutrient testing completed of foreshore areas?	YES	

A buffer zone immediately adjacent to waterbodies should be established in which no fertilising takes place. The width of the buffer zone should be determined by factors such as the site condition and function, however, if possible, it should be at least 30 - 50 m around natural waterbodies. Outside the buffer zone, if fertiliser is required according to soil testing and leaf tissue analysis, it should be phosphorus free and a controlled release, low water soluble fertiliser if in solid form or a liquid 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 rivers and wetlands?	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?	YES	

It is recommended that no further deciduous trees be planted on road verges or near waterbodies. Some additional measures could be implemented to prevent nutrients from sediment entering waterbodies via stormwater drains (see main report).

## WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	YES	EXCELLING
Were stormwater drains regularly monitored for nutrient levels?	N/A	
Were compensating basins regularly monitored for nutrient levels?	YES	

The City monitored wetlands and compensating basins that are under their control for nutrient levels, however, did not report the results to the local community, which it is recommended they commence doing. The City reported that their stormwater was directed to dry sumps or soakwells (those that do not intersect the maximum groundwater table).

## 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 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.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

20  
23

## Shire of Serpentine-Jarrahdale

### 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 turf 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 – 67% ABOVE AVERAGE

The Shire of Serpentine-Jarrahdale has been above average in implementing nutrient Best Management Practices in 2022/23. Further improvements can be made in the areas of fertiliser applications, nutrient management, water quality monitoring and nutrient education.

#### 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 Shire conducted soil tests, leaf tissue analysis and moisture testing of sports fields and irrigated parks, both of which were fertilised and irrigated. It is recommended that regular testing and analysis continue in all areas that are fertilised and irrigated.

## FORESHORE FERTILISER APPLICATIONS

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

The Shire did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### General Fertiliser Recommendations:

Quick release fertiliser was being added to active turf areas at rates above the maximum recommended single application rate of nitrogen of 40 kg/ha. It is recommended that the Shire not apply fertiliser at this rate in a single application, but if this amount of fertiliser is required they do multiple applications over a period of time at a lower rate. 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 rivers and wetlands?	YES	ABOVE 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?	YES	
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	

It is recommended that no further deciduous trees be planted on road verges or near waterbodies. A NIMP should be implemented for streetscapes and a policy to use local native plants as the first choice in landscaping be put in place.

## WATER QUALITY MONITORING

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

It is recommended that the Shire implement a water quality monitoring program for wetlands, stormwater drains and compensating basins and report the results to the local community. SERCULs 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?	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 Shire 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	AVERAGE
Were measures taken to educate the public about not feeding bread to waterbirds in foreshore reserves and parks?	NO	
Were ratepayers provided with advice on best practice in fertiliser management according to soil type?	YES	
Was education provided about nutrient sources to waterways?	NO	

It is recommended that the Shire implement measures to educate the public about not feeding bread to waterbirds in foreshore reserves and parks and provide education to residents, relevant businesses and schools about the impact of all nutrient sources, including fertiliser, pet faeces, grass clippings, leaves, sediment, septic tanks and detergent, on waterways and how they get there (ie. via runoff, stormwater drains and groundwater). SERCUL has relevant information on its website that can be linked to and can be engaged to deliver presentations to schools, business and community groups through its Phosphorus Awareness Project. For more information on this education program and how it can assist the Shire with nutrient education contact Natasha Bowden on 9458 5664.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of South Perth 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 – 95% EXCELLING

The City of South Perth 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, 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 tests, leaf tissue analysis and moisture testing of its golf courses, soil and moisture tests of its sports fields and moisture tests of its irrigated parks and foreshore areas. All of these areas were irrigated but only the sports fields and gold courses were fertilised. They fertilised unirrigated grass 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	EXCELLING
Was fertiliser added to grassed/turfed foreshore reserves?	NO	
Did the fertiliser contain phosphorus?	N/A	
Was it a controlled release solid fertiliser or a liquid fertiliser applied to foliage?	N/A	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	N/A	
Was any nutrient testing completed of foreshore areas?	NO	

The City did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### 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?	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?	NO	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	YES	

It is recommended that no further deciduous trees be planted on road verges or near waterbodies and that the City implement a NIMP for streetscapes.

## WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	YES	EXCELLING
Were stormwater drains regularly monitored for nutrient levels?	YES	
Were compensating basins regularly monitored for nutrient levels?	YES	

The City regularly monitored wetlands, stormwater drains and compensating basins for nutrient levels, but did not report the results to the local community which it is recommended they do.

## 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, with the exception that 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.



# 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.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Subiaco 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 – 89% EXCELLING

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

#### 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 regular soil tests, leaf tissue analysis and moisture testing of sports fields, irrigated parks and foreshore areas and it is recommended that this practice continue.

## FORESHORE FERTILISER APPLICATIONS

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

The City did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### General Fertiliser Recommendations:

Analysis of the amounts of fertiliser applied to passive turf indicates that Pro Turf Hi N fertiliser was applied at a rate above the maximum recommended single application rate of 40 kg/ha of nitrogen, however as it is in a controlled release form this may be acceptable. It is however being applied at rates above the recommended annual application rate of nitrogen of 50 - 100 kg/ha/yr for premium passive turf. The UMAX Urea being applied to active turf contains quick release nitrogen and is being applied at rates above the maximum recommended single application rate. It is recommended that the City ensure that each single application of nitrogen be below the maximum recommended rate for a single application and that annual application rates not exceed that recommended for the turf type. 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?	NO	
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?	YES	

It is recommended that the City put in place measures to prevent nutrients from grass clippings entering waterbodies via stormwater drains. Many of the same measures put in place to control deciduous leaves and sediment entering stormwater drains are also effective in controlling grass clippings (see main report). It is recommended that no further deciduous trees be planted on road verges or near waterbodies.

## WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	YES	EXCELLING
Were stormwater drains regularly monitored for nutrient levels?	N/A	
Were compensating basins regularly monitored for nutrient levels?	N/A	

Wetlands were monitored for nutrient levels, however, the results were not reported to the community. It is recommended that the City report monitoring results to the community. The City stated that its stormwater is directed to "dry" sumps or soakwells (those that do not intersect the maximum groundwater table) and that it doesn't have compensating basins under its control.

## DEVELOPMENT CONTROL

QUESTION	RESPONSE	SECTION BMP
Were there provisions in the Town Planning Scheme or Planning Policies to enforce environmental conditions on development?	YES	ABOVE AVERAGE
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?	YES	

It is recommended that the City impose conditions requiring NIMPs on developments, monitors these for compliance and prosecutes developers that are not complying.

## 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 provide more education about nutrient sources to waterways, in addition to the current sole measure of following up on reports of stormwater contamination by speaking to the suspected perpetrator. 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.

## ADDITIONAL INFORMATION PROVIDED

The City undertakes regular soil analysis and nutrient tests on parks that are irrigated to ensure that correct nutrients are then added.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Swan 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.

100%  
BMPs

### 2023 Overall Best Management Practice Score – 100% EXCELLING

The City of Swan should be commended for having all the assessed nutrient Best Management Practices in place. Further improvement could be made in the areas of nutrient monitoring and fertiliser applications.

#### 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 and leaf tissue analysis of sports fields which it fertilised and irrigated, and soil tests of irrigated parks, which it did not fertilise. It is recommended that the City also conduct moisture testing of all fertilised areas that are irrigated.

## FORESHORE FERTILISER APPLICATIONS

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

The City did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### General Fertiliser Recommendations:

Baileys Energy Maxx fertiliser was added to one active turf area at a rate exceeding the maximum recommended application rate for water-soluble phosphorus for even a high PRI soil. However, as it is a slow release fertiliser and soil tests were performed this application rate may be within acceptable limits. It should, however, be remembered that nutrients from slow release fertilisers can be released very quickly when excessive moisture and high temperatures occur in the same period. 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 SERCUL's 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?	YES	

It is recommended that City continue to implement its current practices, including the practice of not planting deciduous trees on road verges or near water.

## 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.

## WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	YES	EXCELLING
Were stormwater drains regularly monitored for nutrient levels?	YES	
Were compensating basins regularly monitored for nutrient levels?	YES	

It is recommended that the City continue to implement their current practices, including the reporting of results to the community.

## 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.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 Town of Victoria Park 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 – 81% EXCELLING

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

#### 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 Town conducted soil tests and leaf tissue analysis of sports fields and moisture testing of irrigated parks. Both of these areas are fertilised and irrigated. It is recommended that the Town 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	EXCELLING
Was fertiliser added to grassed/turfed foreshore reserves?	NO	
Did the fertiliser contain phosphorus?	N/A	
Was it a controlled release solid fertiliser or a liquid fertiliser applied to foliage?	N/A	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	N/A	
Was any nutrient testing completed of foreshore areas?	NO	

The Town did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### General Fertiliser Recommendations:

The Town applied fertiliser containing low rates of nitrogen to active and passive turf areas using fertigation. It is recommended that the Town continue to implement their current practices, with the exception that fertiliser only be applied during spring and autumn. 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?	NO	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	YES	

It is recommended that no further deciduous trees be planted on road verges or near waterbodies. A NIMP should be implemented for streetscapes.

## 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 Town regularly monitored wetlands for nutrient levels but did not report the results to their local community. It is recommended that the Town also monitor stormwater drains and compensating basins for nutrient levels and report the results of all monitoring to their 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?	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 Town 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	ABOVE AVERAGE
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?	NO	

It is recommended that the Town provide education to residents, relevant businesses and schools about the impact of all nutrient sources, including fertiliser, pet faeces, grass clippings, leaves, sediment, septic tanks and detergent, on waterways and how they get there (ie. via runoff, stormwater drains and groundwater). SERCUL has relevant information on its website that can be linked to and can be engaged to deliver presentations to schools, business and community groups through its Phosphorus Awareness Project. For more information on this education program and how it can assist the Town with nutrient education contact Natasha Bowden on 9458 5664.



# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Vincent 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 – 67% ABOVE AVERAGE

The City of Vincent has been above average in implementing nutrient Best Management Practices in 2022/23. Further improvements can be made in the areas of nutrient monitoring, fertiliser applications, nutrient management, water quality monitoring, development control and nutrient education.

#### 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	ABOVE AVERAGE
Was analysis conducted by a lab affiliated with ASPAC?	YES	
Was plant available phosphorus in the soil measured using an appropriate test?	NO	
Were rates of phosphorus determined by soil testing and Phosphorus Retention Index (PRI) results?	YES	

It is recommended the City measure plant available phosphorus using an appropriate test, such as Colwell, Olsen, Bray or MLSN (Mehlich III). The City conducted soil and moisture tests and leaf tissue analysis of its sports fields, which were fertilised and irrigated. It fertilised its irrigated parks, but performed no testing or analysis of these areas. 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	EXCELLING
Was fertiliser added to grassed/turfed foreshore reserves?	NO	
Did the fertiliser contain phosphorus?	N/A	
Was it a controlled release solid fertiliser or a liquid fertiliser applied to foliage?	N/A	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	N/A	
Was any nutrient testing completed of foreshore areas?	NO	

The City did not apply fertiliser to foreshore areas and it is recommended that this practice continue.

#### General Fertiliser Recommendations:

Analysis of the amount of fertiliser applied to active and passive turf indicates that it was applied at a rate above the maximum recommended single application rate of 40 kg/ha of nitrogen. As slow and controlled release fertilisers were used, not all of the nitrogen may be readily available and therefore these rates 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 SERCUL's Fertilise Wise Fertiliser Training in 2024.

## NUTRIENT MANAGEMENT

QUESTION	RESPONSE	SECTION BMP
Were structural BMPs in place to reduce nutrients entering rivers and wetlands?	NO	ABOVE 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?	YES	
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?	YES	

It is recommended that the City have structural measures in place, such as infiltration, conveyance or detention systems, to reduce nutrients entering waterbodies. It is recommended that no further deciduous trees be planted on road verges or near waterbodies. A NIMP should also be implemented for streetscapes.

## 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 stated that they monitor wetlands for nutrient levels and report the results to the community. It is highly recommended that the City also monitor stormwater drains and compensating basins for nutrient levels and report the results of this monitoring to their local community. SERCULS 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?	YES	BELOW AVERAGE
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 conditions on development which include NIMPs and have mechanisms in place to regulate sediment management (refer to main report). Developments should be monitored for compliance and 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 provide more education about nutrient sources to waterways, in addition to the current sole measure of providing information on their website. 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.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Wanneroo 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 – 75% ABOVE AVERAGE

The City of Wanneroo has been above average in implementing nutrient Best Management Practices in 2022/23. Further improvements can be made in the areas of nutrient monitoring, fertiliser applications, nutrient management, water quality monitoring, development control and nutrient education.

#### 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, golf courses and foreshore areas. It did soil testing and leaf tissue analysis at irrigated parks. All of these areas were fertilised and irrigated. It is recommended that the City also conduct regular moisture testing of irrigated parks.

## FORESHORE FERTILISER APPLICATIONS

QUESTION	RESPONSE	SECTION BMP
Are there grassed/turfed foreshore areas within the LGA?	YES	ABOVE 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?	YES	

The City stated that they applied a liquid and a slow release fertiliser to their foreshore areas. Outside the buffer zone, if fertiliser is required according to soil testing and leaf tissue analysis, it should be phosphorus free and controlled release if in solid form or a liquid applied to foliage.

#### General Fertiliser Recommendations:

Analysis of the amounts of fertiliser applied to active areas (and possibly passive areas and foreshore areas outside the buffer zone as these areas were not reported on separately) indicates that some fertilisers were applied at rates above the maximum recommended single application rate of 40 kg/ha of nitrogen. As the fertilisers being applied at these rates are slow or controlled release, not all of the nitrogen may be readily available and therefore these rates 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?	NO	
Was there a policy to use local native plants as the first choice in public (LGA) and private (developers) landscaping?	YES	

It is recommended that no further deciduous trees be planted on road verges or near waterbodies and that the City implement a NIMP for its streetscapes.

## 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?	YES	
Were compensating basins regularly monitored for nutrient levels?	NO	

The City regularly monitored wetlands and stormwater drains for nutrient levels and reported the results of wetland monitoring to the local community. It is recommended that the City also monitor compensating basins for nutrient levels and report the results of all water quality monitoring to the local community. SERCULs 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?	YES	ABOVE AVERAGE
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?	YES	

It is recommended that the City impose conditions requiring NIMPs on developments, monitor these for compliance and prosecute developers that are not complying.

## NUTRIENT EDUCATION

QUESTION	RESPONSE	SECTION BMP
Were dog poo bins and bags provided in parks and foreshore reserves?	YES	AVERAGE
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?	NO	
Was education provided about nutrient sources to waterways?	NO	

It is recommended that the City provide ratepayers with advice on best practice in fertiliser management according to soil type. SERCUL has a Fertilise Wise brochure that can be sourced for free from SERCUL and distributed to ratepayers at LGA locations. The City can also link its website to the Fertilise Wise page of SERCULs website ([www.sercul.org.au/fertilisewise](http://www.sercul.org.au/fertilisewise)). It is recommended that the Town provide education to residents, relevant businesses and schools about the impact of all nutrient sources, including fertiliser, pet faeces, grass clippings, leaves, sediment, septic tanks and detergent, on waterways and how they get there (ie. via runoff, stormwater drains and groundwater). SERCUL has relevant information on its website that can be linked to and can be engaged to deliver presentations 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.

# ANNUAL NUTRIENT SURVEY for Local Government Authorities

## 2023 City of Mandurah Nutrient Management Score Card

River systems, and many wetlands, on the Swan Coastal Plain 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.

The Annual Nutrient Survey for LGAs 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 your LGA to show how it is performing and where and how improvements can be made. LGAs should also refer to the BMP Recommendations found at [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. This survey is generally only conducted with the 30 LGAs of the Perth Region but has been provided to the City of Mandurah at their request.

### 2023 Overall Best Management Practice Score – 71% ABOVE AVERAGE

The City of Mandurah has been above average 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 development control. The City may have scored higher if those questions marked unsure had been answered in the affirmative.

#### 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	AVERAGE
Was analysis conducted by a lab affiliated with ASPAC?	NO	
Was plant available phosphorus in the soil measured using an appropriate test?	UNSURE	
Were rates of phosphorus determined by soil testing and Phosphorus Retention Index (PRI) results?	YES	

The City stated that laboratory analysis was performed when asked what method of measuring plant available phosphorus they used. As such, they were scored negatively for not providing a suitable response. An appropriate test would be the Colwell, Olsen, Bray or MLSN (Mehlich III). It is recommended that a lab affiliated with ASPAC be used to undertake analysis. The City conducted soil tests, leaf tissue analysis and moisture testing of irrigated parks and foreshore areas. Foreshore areas were fertilised and irrigated, but it was not stated if irrigated parks were fertilised. It conducted soil testing and leaf tissue analysis at sports fields, but did not test moisture levels, even though these areas were 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	EXCELLING
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?	YES	
Was there a buffer zone around waterbodies in which no fertiliser was applied?	YES	
Was any nutrient testing completed of foreshore areas?	YES	

The City fertilised their foreshore reserves and parks, however as they used phosphorus free liquid fertiliser applied to foliage, have a buffer zone in place in which they didn't apply fertiliser and completed nutrient testing prior to fertilising they have excelled in meeting the assessed BMPs for foreshore areas.

#### General Fertiliser Recommendations:

An in-depth analysis was not performed of the fertiliser values given as they were not provided in the format requested. It was noted, however, that fertiliser was applied in spring, summer and autumn. 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 in landscaping.

## WATER QUALITY MONITORING

QUESTION	RESPONSE	SECTION BMP
Were wetlands regularly monitored for nutrient levels?	YES	EXCELLING
Were stormwater drains regularly monitored for nutrient levels?	YES	
Were compensating basins regularly monitored for nutrient levels?	YES	

The City regularly monitored wetlands, stormwater drains and compensating basins for nutrient levels and reported the results to the local community. It is recommended that the City continue to implement their current practices.

## 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)?	NO	
Did the LGA have mechanisms in place to regulate sediment management?	UNSURE	

It is recommended that the City impose conditions requiring NIMPs on developments, monitor these for compliance and prosecute developers that are not complying. The respondent to this survey was unsure if the City has mechanisms in place to regulate sediment management. If the City does not already have mechanisms in place it is recommended that they implement some. Information on appropriate mechanisms can be found at [www.perthnrm.com/resource/sediment-management/](http://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.