



Environment Strategy

2024-2034



Acknowledgements

The City acknowledges Nyungar Birdiyia for their review of the Environment Strategy 2024 – 2034 and provision of content regarding Noongar culture and heritage values related to the environment.

The City acknowledges Noongar artist Teresa Miller for the development of Aboriginal icons with stories for use in the Environment Strategy. Aboriginal icons are used throughout the Strategy and the artwork and stories are detailed in the Aboriginal artwork and stories section at the end of the document.

Reference

Please formally acknowledge the City of Joondalup if you choose to use any of the content contained within the Environment Strategy.

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Alternative formats

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Acknowledgement of Traditional Custodians

The City of Joondalup acknowledges the Traditional Custodians of this land, the Whadjuk people of the Noongar nation. We recognise the culture of the Noongar people and the unique contribution they make to the Joondalup region and Australia. We pay our respects to Elders past, present and emerging, as well as all Aboriginal and Torres Strait Islander peoples.

Joondalup-ak ngala kadij Noongar moort nidja Wadjak boodjar-ak kalyakool moondang-ak kaaradj-midi. Ngala Noongar Moort wer baalabang moorditj kaadidjiny koota-djinanginy. Ngala Noongar wer Torres Strait Moort-al dandjoo koorliny kwaba-djinanginy. Koora, yeyi wer kalyakool, ngalak Noongar wer Torres Strait Birdiya wer moort koota-djinanginy.

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Acronyms

Acronym	Definition
DBCA	Department of Biodiversity, Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPIRD	Department of Primary Industries and Regional Development
DWER	Department of Water and Environmental Regulation
FOGO	Food Organics and Garden Organics
LED	Light emitting diode
NRM	Natural Resource Management
SCRG	Strategic Community Reference Group
WALGA	Western Australian Local Government Association
WARR	Waste Avoidance and Resource Recovery

Glossary

Term	Definition
Biodiversity	Biodiversity is the variety of all life forms on earth - the different plants, animals and micro-organisms and the ecosystems of which they are a part. ¹
Climate change	A change in the state of the climate that can be identified (e.g. by statistical tests) by changes in the mean and/or variability of its properties, and that persists for an extended period of time, typically decades or longer. ²
Sustainability	Meeting the needs of the present without compromising the ability of future generations to meet their own needs. ³
Waterwise	A holistic approach to water in all of its meanings and functions. Being waterwise is about showing experience, knowledge, good judgement and wisdom in how we consider and manage our precious water resources and our connection to them. ⁴

¹ DCCEEW (2023)

² DWER (2021)

³ United Nations (1987)

⁴ DWER (2022)

Yorga Woman at Yellagonga Regional Park, Joondalup



Noongar seasons signage at Warwick Bushland, Warwick



Noongar goal for the Environment Strategy:

We inherit a carefully managed environment whose complexity reflects thousands of years of sustainable culture. We recognise that sustaining cultures and sustaining environments go together. We aim to incorporate traditional ecological values into our environmental sustainability initiatives, and to do this by fostering cross-cultural education and informed participation at every level.

Local government’s role

As per the *Local Government Act 1995*, the general function of a local government is to provide for the good government of persons in its district and must be performed having regard to the need to:

- promote the economic, social and environmental sustainability of the district
- plan for, and to plan for mitigating, risks associated with climate change
- in making decisions, to consider potential long-term consequences and impacts on future generations
- recognise the particular interests of Aboriginal people
- involve Aboriginal people in decision-making processes
- consider collaboration with other local governments.

Noongar culture and heritage values

The Whadjuk people of the Noongar nation are the Traditional Custodians of the land where the City of Joondalup is located. For Noongar, cultural knowledge and environmental custodianship are inseparable. Over thousands of years Noongar have developed a spiritual understanding of the way all life forms (human, non-human) are inter-related. Traditional harvesting strategies followed the six-season Noongar calendar, and were designed to manage the environment sustainably now and for coming generations.

Noongar believe the present land and water and all its living communities were created by spirit beings in the Nyitting (Dreamtime). The best-known of these beings is Waugul, but several important creation figures are respected and revered. The north-south lake system passing through Yellagonga Regional Park is particularly associated with Waugul. Many coastal features are associated with the journeys of Karda (giant goanna).

Noongar Peoples regard the environment as our mother, life energy and a source, rather than a resource. The Environment Strategy is committed to incorporating these values into the actions we as a community take to sustain the place where we live.



Environmental snapshot



8 Bush Forever sites



3 Threatened ecological communities



Over 500ha of natural areas



Yellagonga Regional Park wetlands



550ha of parks



17km of coastal foreshore

Introduction

Our unique environment

The City is located within the Southwest Australian biodiversity hotspot, one of 36 biodiversity hotspots in the world, with approximately 8,000 plant species, the majority of which are endemic to this region.⁵ Biodiversity hotspots are biologically rich areas, however they are threatened by habitat loss. There are a number of regionally, nationally and internationally significant natural areas located within or adjacent to the City including Yellagonga Regional Park, Marmion Marine Park and Neerabup National Park. There are natural areas within the City that contain vegetation communities and species of high conservation value. The City contains several threatened ecological communities as well as threatened or priority flora and fauna species.

The City is situated along the Swan Coastal Plain, with its southern boundary located approximately 16km from the Central Business District of Perth. The City covers an area of 96.5km² which encompasses a diverse range of natural areas including 17km of coastal foreshore, a chain of wetlands and a variety of natural areas.

The City is bounded by the City of Wanneroo to the east and north, the City of Stirling to the south, and the Indian Ocean to the west, as shown in Figure 2 on page 11.

⁵ Brundrett, M. (2021)



What you told us

Shaping Your Local Community

Our community were invited to participate in the Shaping Your Local Community initiative and provide feedback to inform the development of the *Strategic Community Plan 2022–2032* with community consultation activities being delivered from February to April 2021. Feedback was sought via a community survey, events poll and stakeholder workshops, including an environment themed community workshop in March 2021. The majority of the attendees at the environment workshop were from the City’s Friends Groups and the workshop included identifying environmental values and key challenges, exploring ideas for a thriving community and environment in the future and identifying environmental initiatives for the City. Workshop attendees told us that in their local community they most valued bushland, coastal space, beach and trees as shown in the word cloud above with the larger words being more popular.

The following were identified during the workshop as environmental priorities for the City to focus on:

- Protection of natural areas from clearing of native vegetation for development.
- Education, support and funding for Friends Groups to conserve natural areas.
- Engage with schools to educate and raise awareness of bushland values and connect them to natural areas.

Figure 1
City of Joondalup Strategic Environmental Framework

*To be completed in 2025–26



Environmental goal

We have a beautiful natural environment which we care for and protect. We demonstrate best practice in sustainability and environmental management. Our community is actively involved in conservation and sustainability initiatives and we share responsibility for preserving our natural assets for future generations.

Strategic context

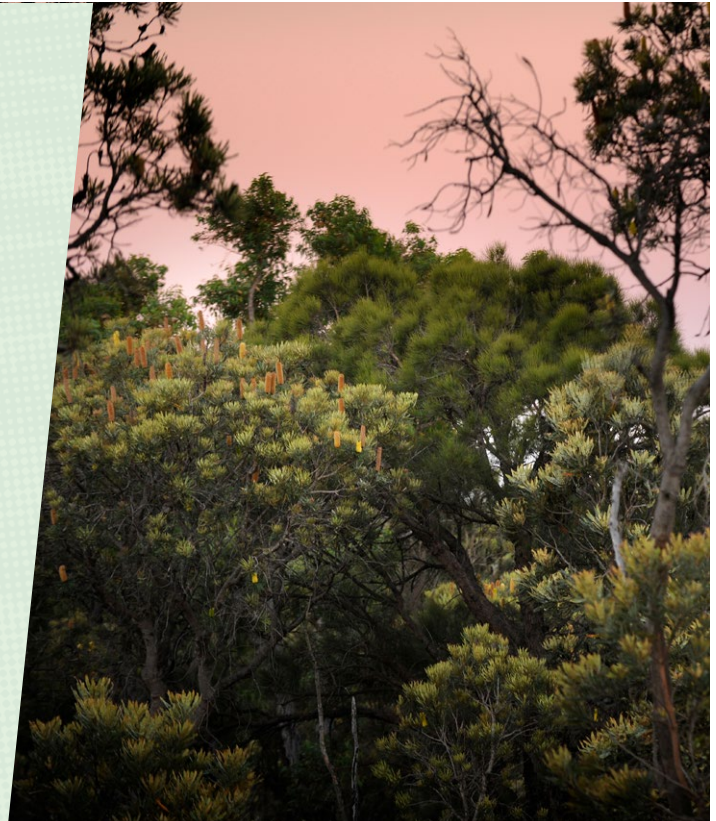
The Environment Strategy 2024–2034 aligns with the City of Joondalup Strategic Environmental Framework as shown in Figure 1. The Environment Strategy 2024 – 2034 is closely aligned with the City’s *Strategic Community Plan 2022 – 2032* and its environmental outcomes. The Environment Strategy 2024–2034 is a high level strategy guiding the issue-specific environmental plans which provide detailed actions and performance measures to address individual environmental issues.

Strategic Community Plan

Environmental outcomes

The City's *Strategic Community Plan 2022 – 2032* sets out our strategic direction for the City for the next 10 years and includes the environmental goal.

The City's *Strategic Community Plan 2022 – 2032* includes the following environmental outcomes.



We are committed to collaborating with the community to care for and protect our natural environment and demonstrate best practice in sustainability and environmental management.

1

Managed and protected

You value and enjoy biodiversity in local bushland, wetland and coastal areas:

- protection and enhancement of City managed natural areas
- management of public open spaces
- collaborate with Friends Groups to conserve and enhance natural areas
- manage natural wetlands with other key stakeholders.

2

Responsible and efficient

You benefit from a responsible and efficient use of natural resources:

- transition to a low-carbon City
- sustainable water management
- protection of water resources
- support the community to live sustainably
- support schools and businesses to undertake environmental sustainability initiatives.

3

Resilient and prepared

You understand and are prepared for the impacts of climate change and natural disasters:

- adapt to climate change
- prepare for natural hazards
- advocate to State and Federal government for support to be resilient and prepared.

4

Clean and sustainable

You are supported to minimise waste and live sustainably in a clean environment:

- avoid and reduce corporate waste and support the community to reduce waste
- increase resource recovery
- litter collection.



Purpose

The purpose of the *Environment Strategy 2024 – 2034* is to provide a framework for the City to be environmentally sustainable by protecting and enhancing the environment and minimising the use of natural resources.

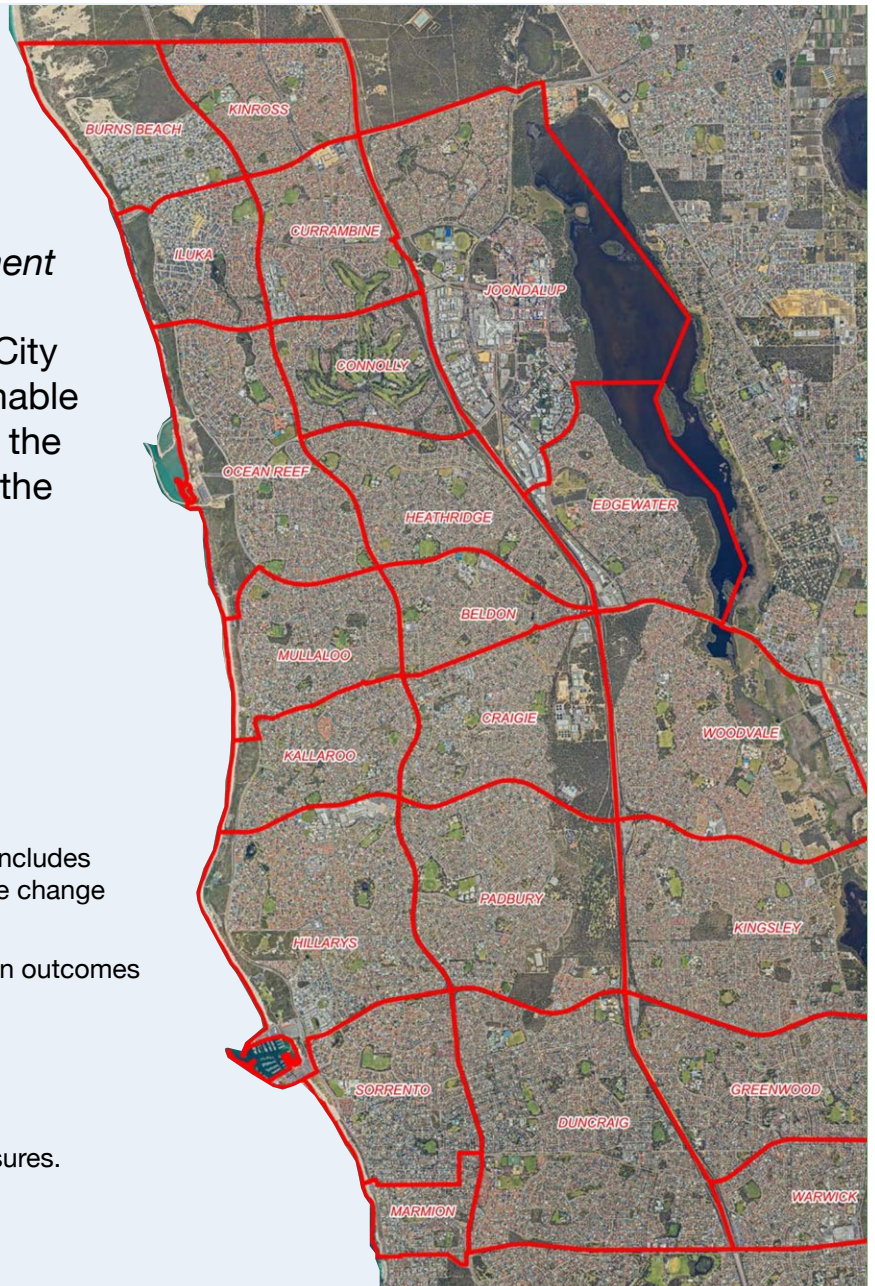
Figure 2
City of Joondalup aerial imagery

Scale (A4): 1 : 65,000

Structure

The Environment Strategy 2024 – 2034 includes key themes of biodiversity, water, climate change and waste. Each theme includes:

- Objectives - Strategic Community Plan outcomes
- Threats - environmental threats
- Strategies - what we currently do
- Plans - what we plan on doing
- Measures - annual performance measures.



Warwick Bushland, Warwick

Environment Plan 2014 – 2019

The *Environment Strategy 2024 – 2034* builds upon the outcomes of the previous *Environment Plan 2014 – 2019*. The *Environment Plan 2014 – 2019* was endorsed by Council in 2014. Substantial progress has been made in implementing the recommended actions from the Plan with all recommendations that were scheduled for implementation during the life of the Plan having been either completed or commenced.



Our partners

We have a shared responsibility to live sustainably and preserve our natural assets. Our partners help us to achieve our environmental outcomes.



Aboriginal partners

We recognise the importance of traditional ecological knowledge in promoting a healthy sense of place and will take actions to improve Noongar participation in decision-making.

State and Commonwealth Government

We work with State and Federal government on projects that help achieve environmental sustainability priorities and they provide support through funding, expertise and advice.

Local businesses

We work with local businesses to encourage sustainability in their operations.



Friends Groups

We collaborate with a large number of Friends Groups that help to conserve and enhance our natural areas.



Schools

We work with schools to support environmental sustainability initiatives and involvement in conservation of our local natural areas.

Community

We encourage and support the community to live sustainably and get involved in conservation of our local natural areas.

Other local governments

We work closely with our neighbouring local governments, City of Stirling and City of Wanneroo, as well as other local governments within WA to progress environmental initiatives. We also work closely with the Western Australian Local Government Association (WALGA).



Environmental organisations

We work with conservation organisations on environmental initiatives such as Birdlife WA, Wildflower Society of WA and Perth NRM.

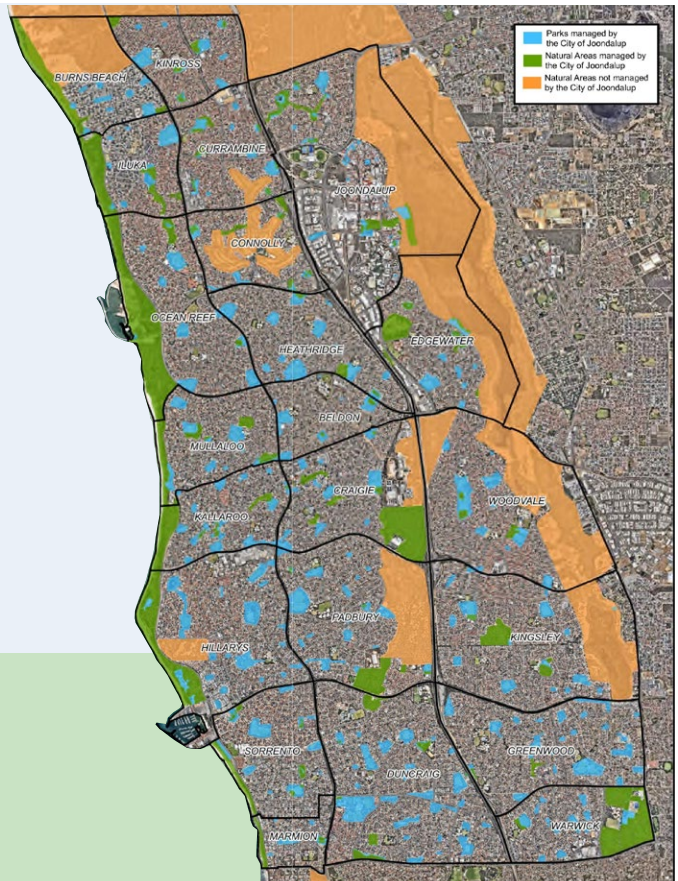
Research institutions

We collaborate with research institutions such as North Metropolitan TAFE, Edith Cowan University and the University of Western Australia with environmental research and studies.

Biodiversity

- Parks managed by the City of Joondalup
- Natural areas managed by the City of Joondalup
- Natural areas not managed by the City of Joondalup

Figure 3: City of Joondalup natural areas



Strategic Community Plan outcome:

Managed and protected – you value and enjoy the biodiversity in local bushland, wetland and coastal areas.

Noongar consider that the best way to secure biodiversity is through an understanding that people and place are mutually sustained, materially, bodily and spiritually. Noongar do not talk of ‘nature’, they talk of spirit Country. Understanding that Country is inside us, not ‘out there’ defines biodiversity as a cultural as well as environmental goal.

The City contains a diverse range of natural areas including 17km of coastal foreshore from Marmion to Burns Beach, a 13km chain of conservation category wetlands in Yellagonga Regional Park and a variety of natural areas. Many of the City’s natural areas are recognised as having local, regional or national significance.

There is a total of 1,384ha of natural areas contained within the City, of which the City manages 533ha in over 100 reserves, as shown in Figure 3. There are also 62,170 dwellings within the City, many of which contain native vegetation within the gardens.⁶ In addition there are 550ha of parks as well as urban landscaping areas such as streetscapes, pedestrian access ways, sumps and swales that can also contain native vegetation.

The City is home to a range of unique and important wildlife and plants. Our unique wildlife that we care for and protect includes the nationally threatened Carnaby’s Black Cockatoos and Forest Red-tailed Black Cockatoos, State listed priority species quenda (bandicoot), regionally iconic Southwestern snake-necked turtles and an abundance of other animals.

The City is also home to important nationally protected and threatened ecological communities such as Banksia Woodlands of the Swan Coastal Plain and Tuart Woodlands and Forests of the Swan Coastal Plain, as well as an incredible diversity of plants. We continue to care for and protect our incredible native animals, ecological communities and native vegetation consisting of beautiful plants, wildflowers and trees.

Canopy cover and native vegetation is important to reduce the urban heat island effect and create cooler and more liveable communities. The City’s canopy cover was 12 per cent in 2020 and has been increasing since 2014, largely due to the implementation of the City’s Leafy City Program and Winter Tree Planting Program.



Threats

There are a range of threats to our biodiversity including:

- Climate change such as increased temperatures and reduced rainfall that results in biodiversity loss and changes in species distribution and vegetation communities⁷.
- Clearing of trees and native vegetation and fragmentation of remaining bushland areas.
- Weeds and the degradation of native vegetation communities.
- Pathogens and pest insects such as Phytophthora species and Polyphagous shot-hole borer and the impacts to native vegetation.
- Invasive species such as foxes, rabbits, cats and pest birds and their impact on native fauna.
- Bushfire risk at a high frequency that impacts vegetation communities.
- Altered hydrogeological regimes such as changes in stormwater flow and groundwater input, particularly for groundwater dependent ecosystems.
- Human impacts such as trampling of native vegetation or dumping of waste in bushland areas.
- Difficulty recruiting new volunteers in Friends Groups to ensure they can continue with conservation of the City's natural areas.

What we currently do

We currently implement a range of plans, projects and initiatives to protect or enhance biodiversity including the following key initiatives that are conducted annually:



Conserving our natural areas

We are growing approximately 10,000 local provenance species each year for revegetation works by Friends Groups in natural areas.

Protecting our natural areas

We care for, protect and manage natural areas through our:

- strategic natural area management plans
- integrated weed management approach
- bushfire mitigation activities within natural areas to reduce the fuel load
- pathogen treatment program within key natural areas with pathogens identified
- feral animal control program in natural areas to target invasive species such as foxes and rabbits
- commenced the process to develop a new Animals Local Law which includes the ability for the City to designate cat prohibited areas.
- Yellagonga Regional Park local biodiversity project in collaboration with the City of Wanneroo and Department of Biodiversity, Conservation and Attractions (DBCA).



Greening our neighbourhoods

We are growing our urban forest and increasing canopy cover through our Leafy City Program and Winter Tree Planting Program. The City's planning framework also includes requirements to plant trees for development on private property in residential infill areas.

The City is also investigating opportunities to increase ecological linkages and biodiversity through planting native trees and plants in priority areas.



Actively engaged community

We implement an Environmental Education Program to encourage the community, schools and businesses to be actively involved in conservation and sustainability initiatives.



Ecological surveys

We engage consultants to undertake periodic ecological surveys and vegetation condition assessments of our major conservation reserves. This allows us to identify and prioritise conservation initiatives effectively, inclusive of caring for and protecting our local threatened species and ecological communities.

Strategic partnerships

We have formed strategic partnerships with agencies and organisations such as the DBCA, Department of Water and Environmental Regulation (DWER), Department of Primary Industries and Regional Development (DPIRD), Water Corporation, Western Australian Local Government Association (WALGA), Perth NRM, ReWild Perth and neighbouring local governments.



Friends of Yellagonga Regional Park celebrating 30 years as a Friends Group

Supporting Friends Groups

We currently support 17 Friends Groups that help to conserve, protect and enhance our natural areas. The Friends Groups conduct activities such as revegetation works, weed control, flora and fauna surveys, removing litter and guided nature walks. Friends Groups often also work with local schools to encourage students to become actively involved with conservation of their natural environment. You can get involved with your local Friends Group and help to conserve bushland near you.

Lilburne Park, Duncraig

What we plan on doing

We plan on continuing to implement the following plans to protect or enhance biodiversity:

- *Natural Area Management Plans*
- *Yellagonga Integrated Catchment Management Plan 2021 – 2026*
- *Weed Management Plan 2023 – 2033*
- *Pathogen Management Plan 2018 – 2028.*





Annual Performance Measures

The following Annual Performance Measures will be reported showing a five-year trend, where relevant. Additional targets and indicators are included in relevant issue-specific environmental plans and will also be reported annually.

⁸ Canopy cover is measured every two years.

⁹ Customer Satisfaction Survey is undertaken every two years.

¹⁰ Measured by the percentage change in good or better vegetation condition of two major conservation areas annually using vegetation condition assessments on a five yearly schedule.



Number of native plants grown in the City's nursery and provided to Friends Groups for planting projects



Percentage of community satisfaction with conservation and natural area management through Customer Satisfaction Survey⁹



Percentage of canopy cover in the City⁸



Vegetation condition changes in key natural areas¹⁰

Number of trees planted by the City through the Leafy City Program and the Winter Urban Tree Planting Program



Water

Strategic Community Plan outcomes:

- Managed and protected – you value and enjoy the biodiversity in local bushland, wetland and coastal areas.
- Responsible and efficient – you benefit from a responsible and efficient use of natural resources.



Noongar peoples regard water as a living flowing energy and creative force and its respect and care are entwined with human existence. Yellagonga Regional Park forms part of a wetlands corridor that is the physical and spiritual lifeblood of Noongar communities past and present. The water systems within the City form one dynamic body and the health of any part of the system therefore affects health ‘downstream’.

We aim to manage water sustainably to balance the provision of water services within operations, facilities and public open space for the community with the protection of water resources in a drying climate with a growing population. Scheme water is used within the City’s buildings and facilities whilst groundwater is utilised for the irrigation of parks and reserves managed by the City. The City conducts sustainable water management through water conservation and water quality management.

The City is located within the Gngangara Groundwater System which is the largest source of good quality, fresh water in the Perth region and supports nationally significant groundwater dependent ecosystems such as the Yellagonga Regional Park wetlands.

We aim to be a leading waterwise community and play a role in promoting water conservation and water efficiency with the community, in partnership with State Government. The City was recognised as a Platinum Waterwise Council in 2022 and received a Water Sensitive Cities Award in 2021 for demonstrating extraordinary waterwise leadership and water sensitive practices.



Threats

There are a range of threats to the City's water management including:

- drying climate with higher temperatures, more frequent hot days, reduced rainfall, increased drought, increased evaporation and reduced soil moisture¹¹
- requirements from State Government to reduce groundwater consumption due to climate impacts on water resources
- increased provision services, facilities and green public open spaces to service a growing population
- altered water levels in Yellagonga Regional Park wetlands from the additional local recharge to groundwater because of urbanisation
- impacts of pollutants on receiving water bodies from the urban environment.

What we currently do

We currently implement a range of plans, projects and initiatives to protect or enhance biodiversity including the following key initiatives that are conducted annually:



Waterwise Council Program

We have been a Waterwise Council since 2010-11 and a Gold Waterwise Council since 2015-16. Craigie Leisure Centre is also a Gold Waterwise Aquatic Centre. We implement waterwise initiatives for the community through the Waterwise Greening Scheme.

Sump Beautification Project

We implement Water Sensitive Urban Design principles and upgrade existing sumps to improve drainage function, treatment and amenity.



Smart control groundwater irrigation system

We implement a web-based central control system to monitor, adjust and maintain its irrigation system in real time improving efficiency and conserving water.



Parks Development Program

We allow for the upgrade, renewal and refurbishment of park landscaping and irrigation including implementation of hydrozoning and ecozoning and reducing irrigated areas.



Yellagonga Integrated Catchment Management

We co-manage Yellagonga Regional Park with the City of Wanneroo and DBCA to address environmental threats and conserve the ecological values of the park.

Lake Joondalup, Yellagonga Regional Park, Joondalup

Annual Performance Measures

The following Annual Performance Measures will be reported showing a five-year trend, where relevant. Additional targets and indicators are included in relevant issue-specific environmental plans and will also be reported annually.



Amount of groundwater used by the City¹²

Amount of scheme water used by the City



¹²The City's total groundwater allocation is set by the Department of Water and Environmental Regulation.



CASE STUDY

Waterwise verge makeover in Padbury in 2022-23

Waterwise Verge Rebate Program and Native Plant Giveaway

We delivered our first ever highly successful **Waterwise Verge Rebate Program** in 2022-23. The program resulted in 101 residents replacing their grass, synthetic lawn and hardstand materials such as paving with waterwise native plants. Waterwise verge gardens provide many benefits including increasing biodiversity and canopy cover, providing ecological corridors and habitat for local wildlife, creating a cooling effect, reducing water consumption and improving streetscape amenity.

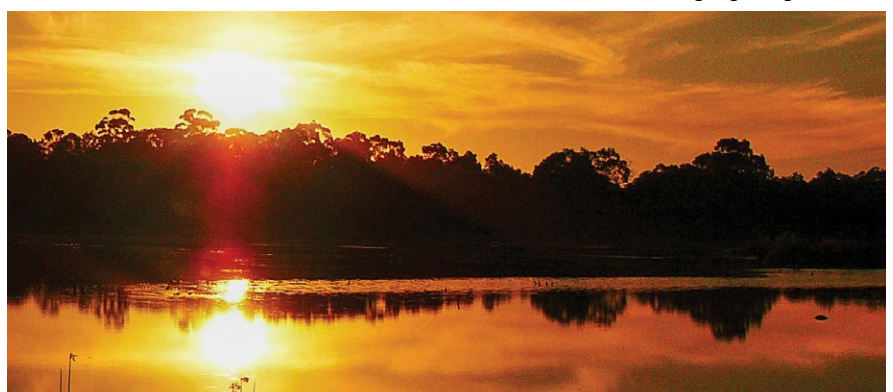
We also delivered our first ever **Native Plant Giveaway** initiative in 2023-24. The initiative resulted in 7,500 native waterwise seedlings plus 350 habitat trees being planted on 750 residential properties to create waterwise native and wildlife friendly gardens and verges that connect, cool and green our neighbourhoods.

Lake Goollelal, Yellagonga Regional Park

What we plan on doing

We plan on continuing to implement the following plans to manage water sustainably:

- *Waterwise Council Action Plan 2021 – 2026*
- *Yellagonga Integrated Catchment Management Plan 2021 – 2026.*





Climate change

Strategic Community Plan outcomes:

- Responsible and efficient – you benefit from a responsible and efficient use of natural resources.
- Resilient and prepared – you understand and are prepared for the impacts of climate change and natural disasters.



Noongar link climate change to a longer history of unsustainable environmental exploitation—exhaustion of groundwater, clearing of bush, the impact of drainage. They draw a direct connection between environmental stress and human distress. They consider that building a new sense of the interdependence of human and non-human life is essential if new environmental values are to be embedded in our culture.

Climate change affects a number of areas that the City is responsible for including infrastructure, assets, health services, water management, emergency management, urban forest and the natural environment.

The impacts of climate change are already being experienced in the south-west of Western Australia which has warmed by about 1.1°C since 1910, with the rate of warming higher since 1960. Since 1900, rainfall has declined in the south-west of Western Australia more than anywhere else in Australia.¹³

Responding effectively to climate change is the responsibility of all spheres of government as well as businesses and the community and involves preventing and reducing greenhouse gas emissions (mitigation) and adapting to climate change impacts as they occur (adaptation).

Threats

There are a range of climate change projections for the City including:

- higher temperatures
- hotter and more frequent hot days
- increased bushfire risks
- decreased rainfall and reduced water availability
- increased intensity of heavy rainfall events
- increased evaporation rates, reduced soil moisture and runoff
- sea level rise resulting in coastal erosion.¹³

What we currently do

We currently implement a range of plans, projects and initiatives to address climate change including the following key initiatives that are conducted annually:



Offset fleet emissions

We purchase carbon offsets for 100 per cent of the City's fleet emissions and have commenced transitioning light fleet vehicles to electric vehicles to reduce emissions.

Sustainable transport

We support the use of sustainable transport through implementing cycling infrastructure such as pathways, bike parking and signage within the City. We also raise the awareness of cycling and its benefits within the community through the Environmental Education Program.



Green Office Program

We implement a cultural change program targeting City staff to promote more sustainable behaviours and attitudes within their everyday work life.



Coastal Adaptation Planning and Implementation Program

We plan for the future impacts of climate change and integrate climate adaptation into our services and functions.

Environmentally sustainable design

We aim to integrate principles of environmental sustainability into the design and construction of City owned buildings through the application of the Environmentally Sustainable Design for City Buildings Policy. The City's Environmentally Sustainable Design Local Planning Policy encourages the incorporation of sustainable development practices into residential, commercial and mixed-use buildings.

Renewable Energy Program

We have been increasing the amount of renewable energy production through the installation of solar panel systems on 19 City buildings and battery storage systems on two City buildings. We also have 22 solar hot water systems across 12 different locations and use geothermal heating to heat the pools at Craigie Leisure Centre.

Renewable energy procurement

We have joined 50 WA local governments to purchase renewable energy for contestable electricity through a Power Purchase Agreement to reduce greenhouse gas emissions, commencing in 2022.

Street Lighting Efficiency Project

We have been upgrading City owned street lights to LEDs with smart lighting controls to increase efficiency and reduce greenhouse gas emissions. We have also been advocating for upgrades to Western Power owned street lighting.

Coastal shared path





CASE STUDY

Energy efficient LED lighting in Joondalup

Street Lighting Efficiency Project

We have been upgrading City owned street lighting, such as streetlights, lights in parks, parking lots and underpasses, to energy efficient LED lighting with smart lighting controls. LED lighting consumes less energy whilst producing increased illumination compared to older mercury systems.

Woodvale Library, Woodvale

What we plan on doing

We plan on continuing to implement the following plans to address climate change:

- *Finalise Climate Change Plan 2024 – 2034*
- *Coastal Infrastructure Adaptation Plan 2018 – 2026*
- *Bushfire Risk Management Plan 2018 – 2023.*
- *Progress development of Coastal Hazard Risk Management and Adaptation Plan in collaboration with the community.*





Annual Performance Measures

The following Annual Performance Measures will be reported showing a five-year trend, where relevant. Additional targets and indicators are included in relevant issue-specific environmental plans and will also be reported annually.



Amount of greenhouse gas emissions generated by the City

Percentage change in net greenhouse gas emissions generated by the City

Amount of renewable energy generated by the City



Waste

Strategic Community Plan outcome:

- Clean and sustainable – you are supported to minimise waste and live sustainably in a clean environment.



Noongar endorse waste management practices that support traditional ecological values and environmental techniques. The goal of keeping our environment clean should not support environmental management techniques (land clearance, habitat reduction, excessive drainage) that threaten habitat resilience and diversity.

Our waste management practices align with the objectives of the State Waste Avoidance and Resource Recovery (WARR) Strategy 2030 including avoiding waste generation, increasing resource recovery and protecting the environment by managing waste responsibly. We focus on improving our waste practices and providing the groundwork to inform the long-term planning for waste.

The WARR Strategy includes the vision that Western Australia will become a sustainable, low-waste, circular economy in which human health and the environment are protected from the impacts of waste. The Strategy also includes targets to increase material recovery to 75 per cent and a 20 per cent reduction in waste generation per capita by 2030.¹⁴

¹⁴Waste Authority (2019)

Residential waste bins





Threats

Key drivers and threats for improving the City's waste management practices include:

- reaching diversion targets included in the WARR Strategy
- reducing environmental impacts from disposing waste to landfill
- increasing costs for disposing waste to landfill
- high levels of waste from the City and the community and encouraging behaviour change
- availability and cost of appropriate waste infrastructure.

What we currently do

We currently implement a range of plans, projects and initiatives to manage waste including the following key initiatives that are conducted annually:



Waste management

We are responsible for the collection of residential waste and manage corporate and household waste through a number of methods and facilities:

- Materials Recovery Facility – items from the yellow lidded bins are processed at the recovery facility and the products are sold on/off shore to the various recycling markets. Any contaminated (non-recyclable) items are sent to landfill for disposal.
- Greens recycling – green waste (i.e. tree prunings etc) that is collected through residential three bin system, the bulk verge greens collection or taken to the greens recycling facility is recycled into mulch products.
- Landfill – the residual waste that the City is unable to recycle or recover is sent to landfill.
- The City is exploring the possibility of implementing a Food Organics and Garden Organics (FOGO) service for its residents in the future to recycle FOGO into compost and divert the amount of organic waste disposed to landfill.

Litter management

We collect litter from our public open space, verges, medians and natural areas. We also support community litter collection and prevention activities.



Waste Education Program

We implement a Waste Education Program for the community and staff to encourage the minimisation of waste and appropriate recycling.

Annual Performance Measures

The following Annual Performance Measures will be reported showing a five-year trend, where relevant. Additional targets and indicators are included in relevant issue-specific environmental plans and will also be reported annually.



Total amount of residential waste collected

Percentage of residential waste diverted from landfill



Number of community waste education sessions conducted with community groups

Number of community waste education classroom sessions conducted with schools



Percentage of community satisfaction with waste management through Customer Satisfaction Survey¹⁵

¹⁵ Customer Satisfaction Survey is undertaken every two years.



CASE STUDY

Road upgrade using recycled waste

Recycled waste for road upgrades

We have been using recycled waste and innovative methods to construct asphalt in road upgrades in Duncraig, Warwick, Joondalup and Padbury. We were one of the first local governments in WA to use Reconophalt, which incorporates recycled waste materials into a road surface. We used recycled waste materials to resurface a section of road in Duncraig. The recycled materials were all previously destined for landfill and included waste toner from about 4,950 printer cartridges, over 200,000 single-use plastic shopping bags, scrap rubber from over 150 tyres and more than 27 tonnes of recycled asphalt.

Another example of our road upgrades using recycled waste is the successful reuse of 90-95 per cent of 1,430 tonnes of our own waste materials (asphalt) in a road construction basecourse treatment in Warwick, Joondalup and Padbury.

What we plan on doing

We plan on continuing to implement the following plan to manage waste:

- *Local Government Waste Plan.*



Implementation

Effective and coordinated implementation of the draft Environment Strategy is critical to achieving the objectives of the Plan. Implementation of the Plan will be coordinated through monitoring and review processes.

Monitoring

In line with the City's Project Management Framework, the Environment Strategy 2024 – 2034 will be reviewed on an annual basis. The review will include an:

- assessment of the progress and status of each proposed action
- assessment of progress towards the annual performance measures which will be reported as a five-year trend, where relevant
- identification of any implementation issues or significant lack in progress.

Reporting

The outcomes of the Environment Strategy review including performance measures and progress of actions will be reported in the Corporate Business Plan quarterly report and annually in the Annual Report and State of the Environment Report.

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Aboriginal artwork and stories

Artwork created by Noongar artist Teresa Miller



Transport

The yonga (kangaroo) tracks through the bush illustrate how these animals carry everything they need on their backs. In areas of heavier bushland, the yonga created trails that the old people followed too, using them as paths through the landscape.



Climate

In this painting, the flowing lines depict a healthy, flowing river, the yellow circle is the warming sun, and blue streaks are the wind, reflecting our culture's complete harmony with nature's elements and our care for the environment for millennia.



Education

In Aboriginal culture, the motif of a group of people sitting at a meeting place symbolises the importance of education through shared knowledge, storytelling, and community gatherings, where wisdom is passed down from Elders to younger generations.



Community and partnerships

This one shows human feet walking in from different directions representing the strength of our diverse community, and symbolising everyone coming together to collaborate, share knowledge, and support one another on a common path.



Waste management

Silver Gulls helped traditional Aboriginal communities by naturally cleaning up food scraps and organic waste. Following the sustainable patterns of animals, our old people learned how nature could assist in managing waste and maintain balance in the environment.



Water

The vital importance of clean water, representing life, nourishment, and our deep spiritual connection to this boodja (land), is celebrated by this Noongar waterhole symbol. Fresh running water ensures the wellbeing of people and the environment.



Coast

This painting of a fish symbolises the significance of coastal regions in Noongar Whadjuk culture, reflecting our connection to the sea as a direct source of sustenance, and our spiritual relationship with marine ecosystems.



Wetlands

On Mooro country, many wetlands provided abundant food. My painting represents the vital connection between the land, the water, and life itself. The incredible balance of the Dragonfly dance reflects the natural harmony in our traditional way of life.



Trees

The spiritual significance of all trees is represented in my painting by a proud cockatoo flying high amongst the bush canopy. The role of trees in sustaining life for all birds and animals is symbolic of our deep cultural connection to Mooro boodja.



Bushland

This painting shows coolamon (baskets) and bush tucker plants, representing the nurturing relationship our people have with the bush. The bushland is our larder and medicine cabinet, providing sustenance, healing, and connection to cultural knowledge and tradition.

Appendix

Relevant Federal,
State and local legislation,
policies and frameworks

Federal legislation

Climate Change Act 2022

*Environment Protection and Biodiversity
Conservation Act 1999*

Recycling and Waste Reduction Act 2020

State legislation

Aboriginal Heritage Act 1972

Biosecurity and Agriculture Management Act 2007

Biodiversity Conservation Act 2016

Bush Fires Act 1954

Environmental Protection Act 1986

Local Government Act 1995

Rights in Water and Irrigation Act 1914

Waste Avoidance and Resource Recovery Act 2007

City of Joondalup policies and frameworks

Coastal Local Planning Policy

Community Funding Program Council Policy

*Container Deposit Scheme Infrastructure Local
Planning Policy*

*Environmentally Sustainable Design for City
Buildings Policy*

*Environmentally Sustainable Design
Local Planning Policy*

Public Open Space Framework

Stormwater Management Council Policy

Sustainability Council Policy

Vandalism to Vegetation on City

Land Council Policy



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