



## Frequently asked questions

### Rebalancing Perth and Mandurah's groundwater systems

#### **What is the State Government doing to rebalance our groundwater resources?**

Over the past two decades, state governments have contended with the impacts of climate change on our water resources. With less rainfall filling Perth's dams since the mid-1970s, groundwater has helped make up the gap in Perth's drinking water supply. This has provided the time needed to develop climate-independent water sources and now over 45 per cent of water supplied to the Integrated Water Supply Scheme comes from desalinated seawater. The groundwater replenishment scheme, which recycles treated wastewater for later use, also contributes to our drinking water supply.

But we need to do more. The McGowan Government's 2021-22 State Budget included funding for a new seawater desalination plant, which is expected to be operational by 2028 and will provide long-term security for Perth's drinking water supplies. In addition, the Waterwise Perth Action Plan, released in October 2019, includes a range of measures to transition Perth to being a waterwise city by 2030, including working with groundwater users to increase water use efficiency.

From 1 September 2022, the garden bore sprinkler roster in Perth and Mandurah will be reduced to two days per week to align with the scheme roster. This will save about 30 GL of groundwater, the equivalent of 30 Optus Stadiums full of water, every year. These savings will mean more groundwater is retained in the system and will see the watertable rise or stabilise, particularly in urban areas.

The State Government has also released a new Gnangara groundwater allocation plan. Under the plan, groundwater abstraction by the Water Corporation, and commercial and local government water licence holders, will be reduced to better align the amount of groundwater abstracted with rainfall recharge under climate change.

These adjustments will not come into effect until 2028, allowing water users time to transition their operations through increased water use efficiency or securing additional water through water trading. These measures are needed to protect our groundwater-dependent ecosystems and will have particular benefit to wetlands in Yanchep and Neerabup National Parks, including Loch McNess, Lake Yonderup and Lake Neerabup; wetlands and Banksia woodland in the Yeal Nature Reserve, Melaleuca Park and Whiteman Park; and urban wetlands such as Perry Lakes.



The new *Gnangara groundwater allocation plan* and supporting information can be found at [gnangara.dwer.wa.gov.au](http://gnangara.dwer.wa.gov.au).

### **Why do we need to rebalance groundwater in the Perth and Mandurah region?**

Climate change is having a significant impact on the water resources of the south-west of Western Australia. Since the mid-1970s, annual average rainfall has declined by about 15 per cent and resulted in an average 80 per cent reduction in streamflow runoff into our drinking water dams.

Perth's declining rainfall because of climate change and increasing groundwater use has shifted our groundwater systems out of balance. Since 1980, Perth's groundwater levels across the Gnangara Mound have fallen by up to 10 metres in some areas, representing a 1,000GL loss of aquifer storage – the equivalent of 1,000 Optus Stadiums full of water.

The lowered watertable is evident through the visible drying of wetlands such as Loch McNess and the loss of the unique Yanchep cave ecosystems. Lowered water levels have also led to increased acidity in lakes Mariginiup, Gnangara, Joondalup and Goollelal.

To protect our groundwater systems from further impacts, we need new measures to rebalance groundwater abstraction, and reduced rainfall and recharge projected under climate change. These measures will provide certainty for water users, significantly improve the protection of our natural environments that depend on groundwater and ensure our groundwater systems can sustainably provide water for generations to come.



## Changes to the garden bore roster for Perth and Mandurah in September 2022

### **What is the change to the garden bore sprinkler roster for Perth and Mandurah?**

Currently domestic garden bores are able to be used to water gardens three days per week in spring, summer and autumn.

As a necessary measure to protect our groundwater resources, we are reducing the domestic garden bore roster to two days per week, aligning with the two-days-per-week scheme water roster in Perth and Mandurah. The new roster starts 1 September 2022.

The winter sprinkler switch off will remain in place from 1 June to 31 August each year, and the ban on daytime watering between 9am and 6pm will remain unchanged.

[Check garden bore water restrictions](#) on wa.gov.au to find your sprinkler roster days.

### **Why are the changes to the garden bore sprinkler roster and what are the benefits?**

Declining rainfall because of the impacts of climate change and increasing groundwater use is drying the Gnamptara groundwater system and affecting Perth wetlands. We need to act now to protect our wetlands and other precious environments.

Across the Perth and Mandurah area, it is estimated that domestic garden bore users collectively abstract about 90 GL per year, the equivalent of 90 Optus Stadiums full of water, or 22 per cent of all water abstracted from our groundwater systems.

Garden bores are managed through sprinkler restrictions, including a daytime ban, sprinkler roster and the winter sprinkler ban, but use significantly more water on their gardens in comparison with scheme water users – about three to four times more.

By reducing the garden bore sprinkler roster to two days per week in Perth and Mandurah, about 30 GL of groundwater, the equivalent of 30 Optus Stadiums full of water, can be saved every year. These savings would mean more groundwater is retained in the system and the watertable will rise or stabilise, particularly in urban areas.

Improving the watertable would have significant benefits to urban street trees and urban bushland, which contribute to the liveability of our suburbs and

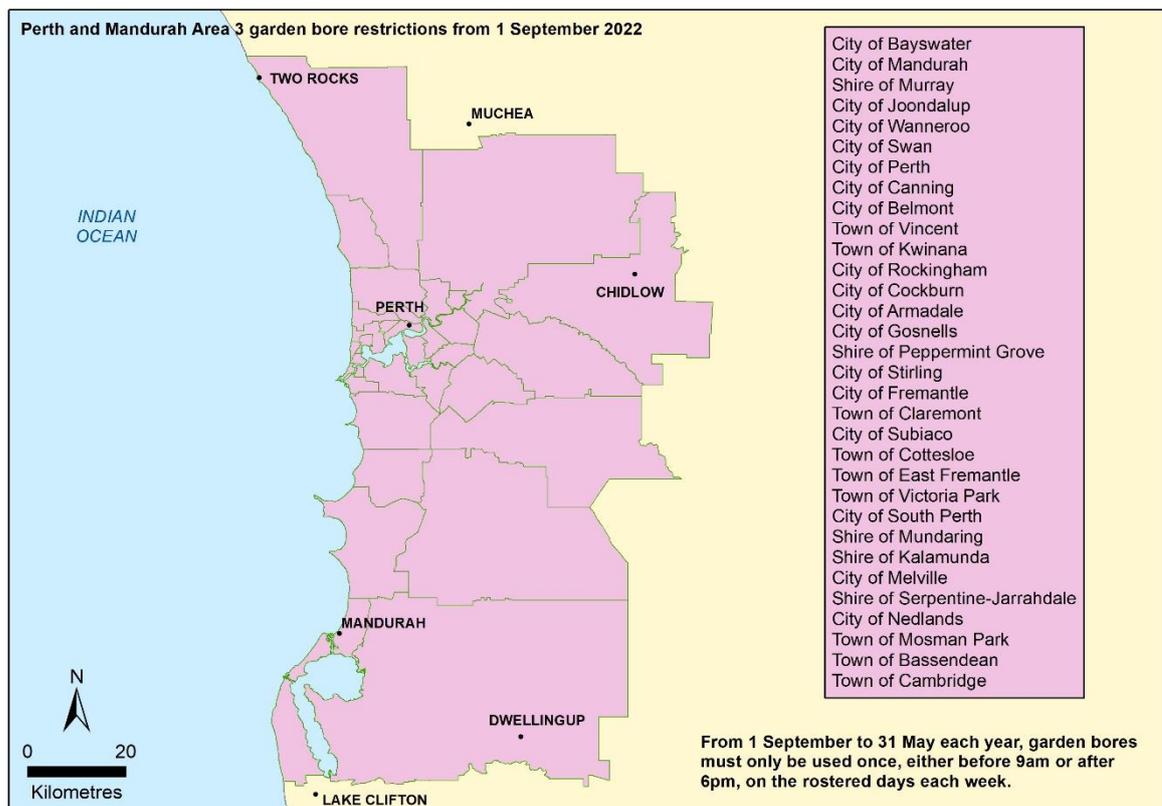


reduce the urban heat island effect. Street trees are heavily reliant on the watertable being maintained at levels accessible to root systems.

Urban wetlands would also benefit through stabilisation of the watertable, with environmental benefits expected in wetlands such as Perry Lakes, Herdsman Lake (Ngurgenboro), Lake Gwelup, Carine Swamp, Star Swamp, North Lake, Bibra Lake and Lake Forrestdale.

### What area will the new garden bore sprinkler roster apply to?

Garden bore sprinkler rosters are regulated under the Water Agencies (Water Use) By-laws 2010. Regulation changes will be for 'Area 3', which includes the Perth and Mandurah area as per the map below.



### When would the new garden bore sprinkler roster come into effect?

To support garden bore owners with the adjustment to the sprinkler roster change, no infringements will be issued during the first 12 months of its operation. The focus will be on educating garden bore owners to adapt to the sprinkler roster change and implement waterwise measures into their gardens. Enforcement of the new roster will start formally on 1 September 2023.



**Will two days watering be enough to maintain a domestic garden and is there any assistance available to help adapt to the new roster?**

Households who water gardens using scheme water have already been watering to a two-days-per-week sprinkler roster for over 20 years and are able to successfully maintain healthy green gardens.

With climate change now having a significant impact on our water resources, we all need to be more waterwise, to support the sustainable use of groundwater.

To assist garden bore users with the changes to the sprinkler roster, the State Government through Water Corporation will be providing support to garden bore users in the Perth and Peel region. This will include expert waterwise assistance for households, and services and rebates to encourage the update of waterwise efficiency products.

For information on a range of waterwise tips for your garden, please visit the [Water Corporation's waterwise website](#).

For more information on garden bores, the importance of groundwater and how to be waterwise, please visit the department's [Be Groundwater Wise website](#).

**Will the changes affect community bores?**

There will be no changes to how community garden bores can be used. The use of community bores is regulated under the *Rights in Water and Irrigation Act 1914* and requires a water licence. The water licence includes conditions to manage how much water is able to be taken, and when.



## Gnangara groundwater allocation plan

### **What is the Gnangara groundwater system?**

The Gnangara groundwater system is Perth's lowest-cost and largest source of natural, good quality water. It lies under Perth between the coast and the hills, extending from the Swan River to Gingin Brook in the north.

The system has three main aquifers – the shallow Superficial aquifer (known as the Gnangara Mound) and the deep Leederville and Yarragadee aquifers.

It is used to grow fruit and vegetables, and water gardens, parks, ovals and public spaces. It is also treated to supply Perth's drinking water and helps sustain wetlands and bushland, and the flora and fauna associated with these ecosystems.

Find out more at [gnangara.dwer.wa.gov.au](http://gnangara.dwer.wa.gov.au).

### **Why is a new plan for the Gnangara groundwater system needed?**

The new 10-year plan replaces the 2009 Gnangara groundwater areas allocation plan. The plan is needed to rebalance groundwater abstraction with reduced rainfall and recharge projected under climate change.

Rebalancing the system will help protect our groundwater systems from further impacts because of climate change and abstraction, provide certainty for water users, significantly improve the protection of our natural environments that depend on groundwater and ensure our groundwater systems can sustainably provide water for generations to come.

### **What are the benefits of the plan?**

The plan provides industry and the community with certainty about how we will rebalance the Gnangara groundwater system to address the impacts of climate change.

Taking the actions in the plan will allow us to continue using the Gnangara groundwater system as a high-quality and low-cost water resource for Perth well into the future. We will also avoid losing good-quality, fresh water resources through saltwater intrusion and acidification.

Important wetlands and native bushland will be protected and be more resilient to climate change by taking the actions in the plan.

Transitioning to a more waterwise economy will support jobs and the economy which are reliant on the use of our Gnangara groundwater resources.



### **What does the plan include?**

- A 10 per cent reduction to most licensed water users from 2028. This gives water users the opportunity to prepare and implement water efficiency measures.
- Groundwater abstracted by the Water Corporation for Perth's Integrated Water Supply Scheme will be reduced by 27 per cent in 2028.
- A reduction in domestic bore water use through amending the garden bore sprinkler roster down from three days per week to two days per week during September to May for the Perth and Mandurah area. This aligns with the current roster for scheme users and is a permanent water restriction change to be introduced from 1 September 2022. More information is available at [begroundwaterwise.wa.gov.au/garden-bore-regulation](https://begroundwaterwise.wa.gov.au/garden-bore-regulation) or search 'garden bore' at [wa.gov.au](https://wa.gov.au).
- Government will work with schools and hospitals to improve water use efficiency, with the aim of reducing their groundwater use by 10 per cent.
- The plan sets groundwater level objectives to protect important groundwater-dependent ecosystems, such as wetlands and bushlands.
- The plan includes strategies to meet these groundwater level objectives, including through reductions to groundwater abstraction.
- The plan describes how the Department of Water and Environmental Regulation will monitor how effectively the plan is meeting its objectives.
- The plan includes implementation actions to publish progress reports every two years and formally review whether outcomes and objectives are being met in 2030. Progress reports will include updates on water licensing and plan actions, and the 2030 review will determine whether the plan needs replacing or should remain in place.

### **When will these changes be introduced?**

- The garden bore sprinkler roster change for the Perth/Mandurah area will start on 1 September 2022. No infringements will be issued during the first 12 months of its operation.
- The reduction to Water Corporation's licence entitlement will be introduced on 1 July 2028.
- Reductions to water licence entitlements will start from 1 July 2028, through the approach outlined below:



When we receive a water licence application from a self-supply groundwater user in the Gnamptara plan area (most will be at licence renewal) we will:

1. assess metering and water use information
2. recoup unused water and adjust the entitlement where appropriate
3. (a) before 1 July 2028 add a condition that will reduce the adjusted entitlement volume by 10 per cent at the start of the first water year after 1 July 2028, or  
(b) from 1 July 2028 reduce the adjusted entitlement by 10 per cent when the licence is reissued.

### **How will the State Government help industry and other water users adjust to these reductions?**

To support water users to adjust to using less water and to help Perth become even more waterwise, the State Government will:

- invest \$600,000 in targeted programs in North Wanneroo to support the horticulture industry
- invest in and develop a new water use efficiency grants scheme to support horticultural water users in the Gnamptara plan area that are subject to the 10 per cent reduction in abstraction
- invest in support to local governments, targeting those in areas most impacted by the urban heat island effect, to prepare for the reductions in their water entitlements
- invest in assistance to householders over a three-year period to make their gardens more waterwise, including incentives to invest in smart irrigation technology, sprinkler system check-ups and waterwise workshops
- advise land developers in Perth's new growth areas on how to access tradeable water entitlements, water sensitive urban design and, where needed, options for additional water supplies
- continue to support the research and investigation of alternative water sources for non-potable supply
- help local councils to be waterwise through a new waterwise irrigation training program for Gold-status Waterwise Councils in partnership with Water Corporation and Irrigation Australia Limited Western Australia
- assist schools, businesses, local governments and the community through targeted Waterwise programs



- continue to support urban greening initiatives and assist the community to improve water literacy and reduce water use through public education campaigns
- provide advice to all water use sectors on water use efficiency
- adjust groundwater subarea boundaries in the Swan Valley and establish water trading rules to support priority agriculture.

#### **How was the plan developed?**

- The plan was developed using robust scientific research and modelling, and following extensive consultation with stakeholders.
- The plan takes into account social, economic and environmental considerations raised by stakeholders.
- The department has held over 100 meetings, workshops and presentations to date to prepare the plan.
- Extensive modelling and analysis shows that a 54 GL per year reduction is needed to measurably improve groundwater levels in critical areas and protect important environmental and water resource values.
- The final plan was informed by submissions received through a community consultation process which was open from 19 November 2021 to 28 February 2022.

#### **What modelling was completed for this plan?**

- The department generated, modelled and assessed a range of reduced abstraction options to test how groundwater levels would respond and how risks would reduce to water supply and groundwater-dependent ecosystems. This modelling included climate change projections, beneficial changes in recharge from reducing the area of pine plantations, and increasing the area of land developed for housing and other urban purposes.
- Groundwater modelling was completed using the Perth Regional Aquifer Modelling System (PRAMS) version 3.5. PRAMS is a sophisticated numerical groundwater flow model that simulates the responses of Perth aquifers to changes in climate, land use and abstraction.
- The model meets the calibration targets and performance criteria in the Australian groundwater flow modelling guidelines and was independently reviewed and found to be fit for purpose.



- Modelling for this plan is based on a climate projection to 2030 that is consistent with the trend in declining rainfall we've experienced in Perth over the past two decades. This projects that the average annual rainfall at 2030 will be 663 mm (Perth Airport rainfall station).
- The World Climate Research Programme's Coupled Model Intercomparison Project (CMIP) makes global climate change projections publicly available in a standardised format. The two most recent phases – CMIP5 (2013) and CMIP6 (2021) – projected with high confidence that the future climate for south-west Western Australia will be warmer and drier. Modelling for the Gnangara plan falls within the range in average rainfall at 2030 under the CMIP5 and CMIP6 projections.

### **What does the plan mean for the environment?**

- Reducing groundwater abstraction as set out in the plan will help save our wetlands, bushlands and cave ecosystems.
- Water level declines caused by abstraction will be stabilised or reversed at many important environmental locations.
- Important wetlands and native bushland will avoid loss of ecological values as a result of declining water levels.
- In some sensitive locations, groundwater levels will be stabilised or will improve, helping to avoid further damage to water quality and environmental health. At other locations, the rate of decline in groundwater levels will be slowed, allowing ecosystems more time to adapt to less groundwater.
- Reducing groundwater abstraction will help protect freshwater ecosystems from becoming acidic, slow declines in frog populations, and have positive outcomes for endangered Banksia woodlands that are vital habitat for 20 nationally threatened species including Carnaby's cockatoo.
- Maintaining water levels in wetlands will help beautify local areas, providing opportunities for recreation and education, and benefit the health and wellness of the community. Reducing garden bore use as set out in the plan will reduce the risks of declines in water levels and increased acidity in groundwater in urban areas and provide environmental benefits to wetlands including Perry Lakes, Herdsman Lake (Ngurgenboro) and Carine Swamp.



### **What does the plan mean for public water supply?**

- Groundwater take for the Integrated Water Supply Scheme will be reduced by 30 GL a year in 2028 (a reduction of about 27 per cent).
- Groundwater take from Water Corporation borefields will be shifted away from more sensitive areas and areas where deep and shallow aquifers are connected to each other, in order to reduce impacts on groundwater-dependent ecosystems at the surface.
- Some groundwater is reserved for future public water supply in the North West urban growth corridor
- The scale of the reduction to public water supply abstraction is what it is needed to achieve ecosystem health, resource quality and sustainability objectives. Public water supply abstraction affects almost the whole Gnangara groundwater system and the reduction will benefit the health of nearly all of the groundwater-dependent ecosystems supported by the system.
- As part of the 2021-22 State Budget, the McGowan Government set aside \$1.4 billion for Perth's third desalination plant.

### **What does the plan mean for agriculture and horticulture?**

- Licence holders with agricultural water uses on their licence will need to reduce their groundwater abstraction by 10 per cent (the same percentage as other self-supply licence holders). Reductions to water licence entitlements will occur from 1 July 2028.
- By significantly reducing the abstraction for public water supply, the reductions for agriculture have been limited to 10 per cent, as opposed to the 25 per cent reductions that were previously considered.
- Growers will have certainty about the reductions to their water entitlements.
- Certainty of changes to water availability means business and landowners have greater financial security and can make confident investment decisions with a water asset that is protected into the future from climate change and overuse.
- To support these water users to adjust to using less, the State Government has established a \$600,000 water-efficiency infrastructure and technology grants program for North Wanneroo.
- The State Government will develop a new water use efficiency program to support horticultural water users in the Gnangara plan area that are subject to the 10 per cent reduction in abstraction.



## **North Wanneroo**

- In January 2019, the McGowan Government proposed to limit any reduction to groundwater allocations in North Wanneroo to just 10 per cent from 2028 – removing the uncertainty about this for growers.
- By significantly reducing the abstraction for public water supply, the reductions for agriculture have been limited to 10 per cent, as opposed to the 25 per cent reductions that were previously considered.
- The Gnangara groundwater allocation plan delivers on that commitment and shows how this and other reductions in groundwater abstraction will contribute to rebalancing the aquifer system.
- The plan will drive more sustainable use of groundwater for horticulture in North Wanneroo so the area can continue to provide fresh produce and employment opportunities close to Perth.
- The State Government also committed the Department of Primary Industries and Regional Development (DPIRD) to implement a water use efficiency program in North Wanneroo. In 2019, DPIRD set up two demonstration sites showing water efficient techniques and best practice irrigation, and commissioned Irrigation Australia to assess the irrigation efficiency of 22 on-farm systems. The results showed that there are opportunities for growers to become more water efficient by modernising their irrigation systems.
- To support growers to do this, in 2021 the McGowan Government established a \$600,000 water efficiency infrastructure and technology grants program. The program will support growers to improve the design of water systems, and implement soil and crop sensor technology and soil amendments to increase soil moisture holding capacity.

## **East Wanneroo agriculture**

- Agricultural licences in the East Wanneroo urban expansion area are exempt from reductions because water use in this zone will significantly reduce as a result of land use change from irrigated agriculture to urban.
- All licences outside the urban expansion area will be reduced by 10 per cent.



## Swan Valley

- The 10 per cent reduction to agricultural users in the Swan Valley area, from all aquifers, will stabilise fresh groundwater flows to the river and reduce the risk of saline river water entering the groundwater. In doing so, the actions in this plan will help secure a more sustainable groundwater supply for the Swan Valley.
- Growers in the valley are well-placed to adapt to climate change and modest reductions to water use during the next decade. The valley's character and location support opportunities to grow agri-tourism, diversify products, adapt grape varieties, and capitalise on high visitation and the Swan Valley brand.
- The plan includes a number of actions from the Swan Valley action plan, protecting the Swan Valley's unique character. This includes realignment of groundwater subarea boundaries in the Swan groundwater area to the Swan Valley statutory planning area. This will ensure that water supporting the valley's unique agricultural character stays within a new Swan Valley subarea.
- The plan includes new trading rules to align with the new Swan Valley planning scheme and ensure areas with quality soil, good access to water and suitable block size are kept as priority agricultural (consistent with the priority agriculture zone in the scheme). A new trading policy allows licensees to trade into and within this area/zone, but not out of it.
- To support future groundwater management in the Swan Valley we have also funded a new hydrological investigation across the North East corridor to further our local understanding of salinity issues and support future consideration of alternative/supplementary water supplies such as managed aquifer recharge.

## Gingin

- The plan signals potential reductions for groundwater abstraction in the Gingin groundwater area surrounding Gingin Brook; however, we will not reduce licensed abstraction until we have confirmed the approach in a new Gingin water allocation plan. Groundwater abstraction to the north of Gingin Brook impacts streamflows in a similar manner as abstraction to the south and a consistent approach to groundwater use will be needed on both sides of the brook
- The department is further assessing groundwater availability in Gingin in the context of other significant factors that influence the health of Gingin Brook and other groundwater-dependent streams which are outside of the Gnamptara plan area. Groundwater abstraction north of



Gingin Brook, abstraction of groundwater from other regional aquifers such as the Leederville–Parmelia aquifer, and the use of groundwater from shallow aquifers and surface water resources upstream, all have an impact on the values of Gingin Brook.

- A comprehensive and fair approach to managing the values of Gingin brook and Moore River Estuary will be established in a new Gingin water allocation plan, planned for 2025. The new plan will combine and replace both the Gingin groundwater allocation plan and Gingin surface water allocation plan, as well as the Gingin subareas of the Gnamptara groundwater plan.
- The department is progressing the East Midlands state groundwater investigation program. This will help us better understand the interaction between groundwater abstraction and flow in Gingin Brook and other groundwater-dependent streams on the Dandaragan Plateau, east of Brand Highway.

#### **What does the plan mean for urban areas, parks and green spaces?**

- By reducing groundwater abstraction, the plan will protect our urban trees and wetlands from the impacts of climate change.
- Under the plan, there will be no abstraction reductions to licences for groundwater used by schools for irrigating school grounds, although we encourage less groundwater use and more efficient irrigation if this can be done without losing recreational spaces or amenity.
- Most of the groundwater used to irrigate public open spaces is licensed to local governments. A 10 per cent reduction to abstraction will apply to these licences from 2028.
- In implementing the plan, the State Government will support local governments, targeting those in areas most impacted by the urban heat island effect, to prepare for the reductions in their water entitlements through a new support program.
- Although the approach to adaptation will vary across urban local governments, all are starting to adjust to climate change and a future with less available groundwater. All 16 metropolitan councils in the Gnamptara plan area are part of the Waterwise Councils Program and 14 have either Gold or Platinum status.
- The State Government launched a new waterwise irrigation training program in 2021 to encourage local governments to achieve and retain Gold endorsement under the program. The irrigation training program will equip local government staff with the skills and knowledge to



ensure best practice in efficient water use, through improved irrigation design, installation and maintenance.

- In addition to the nine golf courses managed by local governments, there are 12 private golf clubs or golf resorts across the Gnangara plan area. Use of best practice design and irrigation efficiency varies between golf courses. We encourage golf courses to join the Waterwise Golf Program, a joint initiative of the Golf Course Superintendents Association of Western Australia and the department. The program supports golf courses to improve water efficiency and resilience to climate change by focusing on training, design, efficient irrigation, water budgeting, soil management and alternative water supplies to maintain high-amenity golf courses that use less water.
- To keep the benefits of irrigating with groundwater, we need to better design Perth's gardens, grounds and parks, use the right plants in the right place, use soil amendments for our sandy soils, apply waterwise irrigation scheduling and update irrigation technology.
- From 1 September 2022, the domestic garden bore sprinkler roster will be changed to align with the two-days-per-week sprinkler roster for scheme water users in Perth and Mandurah, reducing from three days per week. Aligning the domestic garden bore and scheme water rosters will save up to 30 GL per year of groundwater, which will help to slow or reverse our declining groundwater levels.
- Some bore users do not have access to scheme water and use garden bores to maintain lawn around their homes as part of a building protection zone to help manage bushfire risks. Households that can demonstrate the need to water on a third day to establish and maintain a building protection zone will be able to apply for an exemption.
- The department and Water Corporation will be helping groundwater users to make changes through Waterwise programs – Waterwise Schools, Waterwise Councils and Waterwise Golf – and the second Waterwise Perth Action Plan.

### **What does the plan mean for urban growth areas?**

- The Perth and Peel@3.5 million planning frameworks identify urban expansion in the North West urban growth corridor (north along the coast from Quinns to Two Rocks), North East urban growth corridor (north of Midland to Bullsbrook) and East Wanneroo urban expansion area.
- Under actions of the Waterwise Perth Action Plan we have identified that in most cases, with the implementation of waterwise practices,



existing groundwater supplies (including trades and transfers) will be adequate to meet green space irrigation demand.

- In some cases, alternative water sources may be needed, but only after the options above have been fully explored. Where local groundwater cannot meet demand in full, we will continue to work with local government and state planning agencies to find other ways to secure water for public open space purposes, depending on the local situation.
- Developers looking for water to develop new public open space areas will be:
  - encouraged to implement water sensitive design, and better water management and water efficiency
  - supported to seek water through purchasing water transfers as land use changes or negotiate with local governments to redistribute existing water entitlements
  - supported, where additional water is necessary, to investigate alternative supply solutions, consider use of scheme water or develop alternative water sources, including in the North East urban growth corridor
  - exempt from reductions in the North West urban growth corridor (Quinns, Eglinton and Yanchep subareas) as water has already been set aside and limits adjusted down to account for climate change through the North West corridor supply strategy
  - exempted from reductions in the East Wanneroo area identified as urban expansion in the State Government's North-West sub-regional planning framework, because groundwater levels are expected to rise with urbanisation (increased recharge and less groundwater use than the existing agriculture)
  - encouraged to use this plan as a trigger to recognise our water challenge and focus on finding solutions through both planning for shared spaces, and look at alternative supply options.
- There are other options. For example, the City of Kalamunda is diverting water from a local drain in winter, storing it underground, and then pumping it out in summer to irrigate recreation areas. New urban developments, such as Rosehill Waters, have used careful design to create better amenity and save water. There is scope to do more of this, which is why the Department of Water and Environmental Regulation is working with other interested agencies to deliver more waterwise actions for Perth.



### **Will any water licensees be exempt from reductions?**

- Schools and hospitals will be exempt from mandatory reductions to abstraction, and the Waterwise schools program will focus on water use efficiency for school grounds.
- Groundwater entitlements held by established nurseries and tree farms for irrigating plants and trees for commercial purposes are exempt from the reductions. These businesses have an important role in supporting the Waterwise Perth Action Plan by providing Perth with plants for greening of new and existing urban areas and to combat the increasing urban heat island effect in a drying climate.
- Exemptions will also apply for:
  - dust suppression
  - self-supply from the Yarragadee aquifer (mainly used for geothermal heating)
  - future public open space irrigation in the North West urban corridor (which has already been adjusted for climate change) and the urban expansion area of East Wanneroo (where water levels will rise as a result of the planned land use changes)
  - water from coastal saline and small fractured rock aquifers.