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# Water Conservation and Drought Management Procedure 2021

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# 1. Water Conservation

## 1.1 The Efficient Use of Water

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Port Macquarie-Hastings Council (PMHC) encourages the efficient use of water. In accordance with the current *Local Government Act*, property owners, occupiers or managers must take any reasonable action to prevent waste and misuse of water. PMHC has developed a strategy to ensure conservation and demand management is a priority in the Local Government Area, with the aim of promoting efficient water usage and reducing water wastage.

The benefits of water conservation and demand management include:

- the potential to defer capital and recurrent expenditures in the water system by reducing excessive consumption;
- providing consumers with greater control over the size of their water bills by following the NSW Government's current *Guidelines for Best-Practice Management of Water Supply and Sewerage* to increase the proportion of the bill based on usage; and
- improving environmental performance (such as reducing water extraction and energy consumption) by reducing waste and misuse of water resources.

PMHC's strategy for conservation and demand management includes the following components:

- water pricing reform by following the NSW Government's current *Guidelines for Best-Practice Management of Water Supply and Sewerage*
- Water Conservation Measures, to encourage the efficient use of water and recycled water
- minimising losses in the water system, including a meter replacement program
- community education programs
- building code measures, including the promotion of NSW Government initiatives like BASIX, and
- investigating and developing water recycling schemes, such as recycled water and effluent reuse to substitute for potable (drinking) water.

### 1.1.1 BASIX – the NSW Government's 'Building Sustainability Index'

Introduced by the NSW Government as a world-first sustainability tool in July 2004, the BASIX is a major initiative to reduce the amount of drinking water consumed and greenhouse gas emitted by new homes throughout NSW. In the Port Macquarie-Hastings Local Government Area, the BASIX Policy includes a requirement for all new homes, from single dwellings to high-rise developments, to reduce the amount of drinking water used by 40% compared to homes built prior to the introduction of BASIX. This can be achieved through a range of water saving measures, such as water efficient shower heads, dual-flush toilets, use of recycled water, rainwater tanks, greywater treatment systems and more. From October 2006, BASIX also applies to alterations and additions to residential dwellings, swimming pools and spas.

## 1.2 Water Conservation Measures

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PMHC introduced Water Conservation Measures in 2004 and reaffirmed this decision via Council resolution in 2005, 2013, 2016 and December 2018.

These measures can assist residents in better managing their water use, which will deliver significant financial, environmental and social benefits to the community.

The following Water Conservation Measures are encouraged by PMHC:

### ***Watering gardens and lawns:***

- avoid the use of hoses, sprinklers or watering systems between 9am and 4pm;
- fit hoses with a water cut-off trigger or control nozzle; and
- use watering cans and buckets instead of a hose.

### ***Cleaning vehicles, houses, boats and outboard motors:***

- where possible, wash vehicles, boats and outboard motors on the lawn; and
- fit hoses with a water cut-off trigger or control nozzle.

### **Topping-up swimming pools:**

- monitor the filling and topping-up of swimming pools and spas so as to avoid pool overflow and water wastage.

### ***Cleaning driveways, paths and hardstand areas:***

- use brooms, vacuum cleaners or air blowers to remove loose material; and
- use an approved water efficient nozzle (less than 9 litres per minute) or high pressure cleaning unit fitted with a water cut-off trigger or control nozzle.

### ***All commercial and industrial buildings, building and construction activities and landscaping industries:***

- avoid the use of watering systems between 9am and 4pm;
- fit hoses with a water cut-off trigger or control nozzle; and
- use recycled water for dust suppression.

## **1.3 Water Loss Management**

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### **1.3.1 What is 'water loss'?**

PMHC is committed to minimising water loss in the water supply system. Water loss is the amount of water that PMHC supplies into the system that is not accounted for in the sum of individual customer meter readings. Water loss issues can include:

- leaks in the water system
- unmetered water use e.g. for firefighting or mains flushing
- unauthorised water use e.g. theft and illegal connections
- under-registration of customer meters (i.e. meter not registering full flow passing through it), or
- errors in the water system meters.

### **1.3.2 Leak Reduction Program**

PMHC regularly checks reservoir zones in the water supply system to determine if major leaks are occurring.

PMHC uses its computerised Supervisory Control and Data Acquisition (SCADA) system to monitor flows and reservoir levels. This information is used to target sites for investigations and leakage surveys where required.

PMHC encourages residents to report any leaks in the water system.

### **1.3.3 Pressure Reduction Program**

PMHC reduces excessive pressure in the system by appropriate reservoir zonings and through the installation of pressure-reducing valves. This reduces the quantity of water lost through leaks, which may decrease maintenance requirements and extend the life of watermains.

### **1.3.4 Watermain Renewals Program**

PMHC has an annual Watermain Renewals Program to ensure the integrity and performance of our water supply network, this includes replacing any watermains that are in poor-performing condition or that have significantly degenerated due to age.

### **1.3.5 Meter Replacement Program**

PMHC has a Meter Replacement Program to replace ineffective or ageing meters. The replacement of meters occurs after analysis of PMHC's entire fleet of meters and is not based on customer requests.

This program includes the physical replacement of 25mm residential meters with 20mm meters (these are currently being charged as a 20mm meter).

PMHC will replace the meters identified under this program at no cost to the property owner and will endeavour to notify residents at the time of replacement and advise that a new meter has been installed.

### **1.3.6 Customer's water system**

PMHC encourages property owners to properly maintain pipes and fittings in their water system and promptly fix any leaks. For example, a toilet cistern leaking at a rate of 1 litre per minute will add over \$1,700 to the annual water charge over a 12 month period based on 2020/21 water charges. If the property usage threshold has already been met, this figure will double.

## 1.4 Community Education

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PMHC is committed to an ongoing customer education campaign focusing on the importance of conserving our valuable water resources. In this endeavour, PMHC works in partnership with the broader community, environmental groups, schools, local businesses and other government agencies.

PMHC's community education program is designed to increase public awareness about water issues and efficiencies, by providing:

- current and accurate information on PMHC's website for all aspects relating to water, such as the water treatment process, water testing, water conservation measures and water restrictions
- demonstration of measures already being implemented to minimise impact on the environment and improve the efficiency and quality of water services provided to the public
- tours of PMHC's water facilities to raise awareness of where water comes from, the water treatment process, how water is sent to the customer's house, recycled water, and the work done by PMHC staff
- field trips and education programs for schools
- information displays at shopping centres and major community events
- participation and community tours during National Water Week in October each year
- promotion of the national Water Efficiency Labelling and Standards (WELS) scheme, which has been developed to provide customers with reliable information on the relative efficiency of domestic appliances, e.g. shower roses and washing machines
- brochures and other materials to inform the community, e.g. PMHC's Water Efficient Garden booklet, Frequently Asked Questions on Water Restrictions, Water Conservation brochure and a list of locations for the 'Choose Tap' water bottle refill and drink stations
- regular promotions and community information on water-related issues via media outlets.

## 1.5 Rainwater Tanks

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### 1.5.1 Introduction

In areas where a dual reticulation non-potable water supply is not available, PMHC encourages the installation of rainwater tanks retrofitted to homes or as a requirement of BASIX, noting that:

- rainwater is a valuable natural resource and so should be collected for household use where possible
- rainwater collection systems assist in reducing some of the negative impacts associated with stormwater run-off particularly in urban areas
- the use of a rainwater collection system is a way of conserving potable water supplies as it can provide a water source for a range of household tasks including toilet flushing, laundry and external uses such as garden watering, topping-up swimming pools and car washing
- using rainwater will reduce water bills and community infrastructure costs
- using rainwater can also aid self-sufficiency, providing a back-up supply in case of water restrictions caused by drought, peak supply shortage, or water quality problems
- 'NSW Health supports the use of rainwater tanks for non-drinking uses, such as toilet flushing, washing clothes or in water heating systems'

Should consumers wish to use rainwater for all domestic purposes, it is important that the advice contained in NSW Health Guideline GL2007\_009 of June 2007 is considered. Advice can be found at: [https://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2007\\_009.pdf](https://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2007_009.pdf)

### 1.5.2 PMHC approval

Where approval from PMHC is required, the siting, design and erection of rainwater tanks must be in accordance with PMHC requirements.

Rainwater Tank Guidelines and standard arrangement installation drawings are available from PMHC's website at:

<https://www.pmhc.nsw.gov.au/Services/Water/Water-in-the-home/Rainwater-tanks>.

PMHC must be contacted to determine whether development approval is required.

### 1.5.3 Exempt Development

The installation of a rainwater tank does not require PMHC approval if the installation meets requirements set out in State Environmental Planning Policy (SEPP) Exempt and Complying Development.

## 1.6 Greywater Reuse

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### 1.6.1 PMHC approval

PMHC approval is required for customers wishing to install and operate a system for diverting greywater generated on their residential premises. However, in accordance with current *Local Government (General) Regulations*, domestic greywater diversion may be carried out without PMHC approval **if**:

- it is carried out in accordance with the current *Plumbing Code of Australia* and a sewage management facility is **not** installed on the premises, and
- the following performance standards are achieved:
  - prevention of the spread of disease by micro-organisms;
  - prevention of the spread of foul odours;
  - prevention of contamination of water;
  - prevention of degradation of soil and vegetation;
  - discouragement of insects and vermin;
  - ensuring that persons do not come into contact with untreated sewage or effluent (whether treated or not) in their ordinary activities on the premises; and
  - minimisation of any adverse impacts on the amenity of the premises and surrounding lands.

### 1.6.2 Owner's responsibility

Property owners are responsible for greywater systems, and any impacts of using greywater on the premises. It is the owner's responsibility to meet the performance standards for greywater reuse

## 2. Drought Management

### 2.1 Objectives and Notification

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#### 2.1.1 Objectives

Objectives of the Port Macquarie-Hastings Drought Management Plan are to:

- manage the water supply system with the aim of minimising the impact of drought;
- manage the actions taken in conjunction with the impact of drought on water users and the environment;
- define the conditions under which water restrictions will be implemented; and
- enable PMHC to meet statutory requirements, e.g. environmental river flow targets to minimise the impact of water supply demands on the river and associated aquatic ecosystems.

PMHC will ensure a systematic, timely, effective and efficient response to drought and emergencies, to minimise disruption and adverse impact on customers.

PMHC are currently developing an Integrated Water Cycle Management (IWCM) Strategy. The strategy will include the following:

- Water Supply Secure Yield Study;
- Drought Management Plan; and
- Demand Management Plan.

#### 2.1.2 Water conservation and demand management

PMHC has adopted a responsible risk management approach to drought situations, which relies on a combination of water conservation and demand management measures, as well as improvements to the existing water supply system.

#### 2.1.3 Declaring measures for drought management

PMHC will initiate measures under the Drought Management Plan if:

- there is a drought; or
- the available stored water, or the available capacity of supply, is so limited as to make extraordinary measures necessary in the general interest of water consumers.

#### 2.1.4 Notification

PMHC will publish a notice in local newspapers outlining the water restrictions that apply in accordance with the Drought Management Plan. This may include the:

- purposes for which the water can be used;
- times when the water can be used;
- methods by which the water can be used; or
- quantities of the water that can be used.

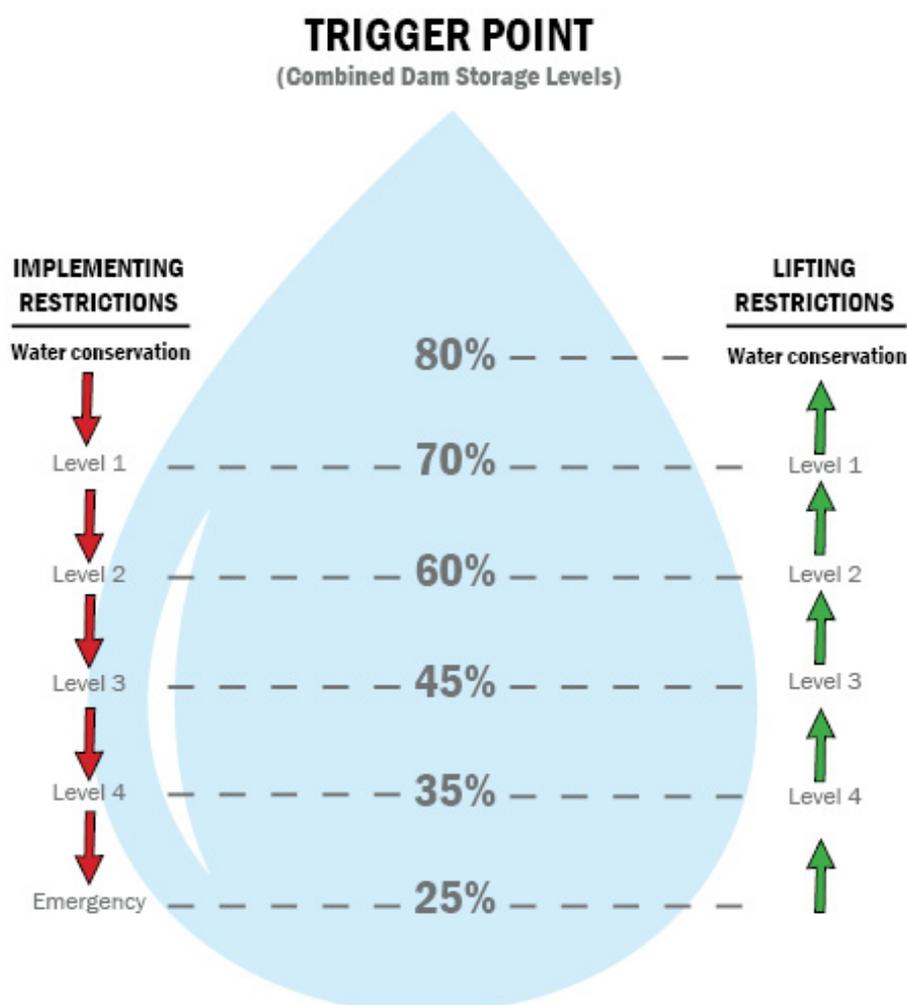
## 2.2 Water Restrictions

### 2.2.1 Introduction

Water restriction levels are determined based on an assessment of daily customer demand and water storage levels available in our dams. Predicted weather forecasts and the flow and quality of the rivers is also taken into consideration when implementing water restrictions.

PMHC adopted revised water restriction trigger levels, and the 2014 Uniform Regional Water Restrictions, at the Ordinary Council Meeting of 20 July 2016. These revised water restriction trigger levels of combined total dam storage for both Cowarra and Port Macquarie dams are:

*Figure 1: Water Restriction Trigger Levels*



PMHC's CEO has the delegated authority to exercise discretion when imposing water restrictions, giving due consideration to the time of year and prevailing weather conditions. Similarly, the CEO also has the delegation to exercise discretion when lifting water restrictions, giving due consideration to the potential for pumping from the Hastings River and combined storage levels in the dams. Please refer to Dam Levels, and Water Restrictions and Trigger Levels on PMHC's website for more information.

Water restrictions have four levels (Level 1 to Level 4), which can be incrementally implemented to reduce water demands during periods of extended drought conditions.

Emergency Water Restrictions follow on from Level 4 (Severe), and conditions associated with the use of water would be as directed by PMHC at that time.

Similarly, when lifting water restrictions, a step approach is taken based primarily on the combined dam levels. Figure 1 above details the levels and the approximate trigger point for implementing water restrictions, as well as those for lifting water restrictions.

**Water Conservation Measures are encouraged at all times.** The given specifications relate to potable water unless stated otherwise. There are **separate restrictions placed on recycled water**, as stated, and **no restrictions are placed on rainwater or bore water use** (restrictions will apply to tanks which have a potable top up connection). Signage to denote alternate water use is available from hardware stores.

## 2.2.2 Level 1 Moderate Water Restrictions

### *Watering gardens and lawns:*

- use of water sprinklers or fixed hoses is banned
- hand-held hose or drip irrigation can be used for a maximum of **1 hour before 9:00am or after 4:00pm** on odd or even days matching house number
- hoses must be fitted with water cut-off trigger or control nozzle
- micro-sprays, with nozzles less than 3mm in diameter, or drip irrigation systems may be used for a maximum of **15 minutes before 9.00am or after 4.00pm** matching house number
- watering-cans and buckets can be used at any time
- **no domestic water use outside the home on the 31st day of the month.**

### *New turf:*

- exemptions for establishing new turf are available. An 'Exemption from Water Restrictions to Water New Turf' application is available online or from PMHC offices.

### *Cleaning vehicles, boats and outboard motors:*

- car and boat washing (on lawn area): with a bucket and one hand-held hose (for rinsing only) **before 9:00am or after 4:00pm** on odd or even days matching house number
- boat motor flushing can occur for 5 minutes on lawn area only on day of use.

### *Topping up swimming pools:*

- one hand-held hose can be used for a maximum of **1 hour before 9.00am or after 4.00pm** on odd or even days matching house number
- hose must be fitted with a water cut-off trigger or control nozzle.

### *Cleaning houses, driveways, paths and hardstand areas:*

- washing driveways, paved areas, walls and roofs with a hose is **banned**
- no chemicals or cleaning products are to be used on driveways, paths or hardstand areas; brooms or air blowers should be used to remove loose material from driveways, paths and hardstand areas with material disposed of in green bin or used as mulch on garden
- watering-cans and buckets can be used at any time.

### *Sporting fields:*

- irrigation systems can only be used between 1.00am to 2.00am on Monday, Wednesday and Friday.

### *Public gardens:*

- hand-held hoses can only be used between 7.00am and 8.00am on Monday, Wednesday and Friday.

### *Plant nurseries, bowling greens and commercial market gardens:*

- sprinkler systems can only be used between 7.30am and 9.30am.

### *Commercial, building and landscaping industries:*

- no restrictions to commercial activities (other than nurseries, bowling greens and commercial market gardens), however water saving initiatives are encouraged
- dust suppression permitted with **recycled** water only
- all water usage and associated activities must not cause pollution as defined under the Protection of the Environment Operations [POEO] Act 1997.

### *Recycled water:*

- no restrictions on recycled water use.

### 2.2.3 Level 2 High Water Restrictions

#### *Watering gardens and lawns:*

- use of water sprinklers or fixed hoses are banned
- one hand-held hose can be used for a maximum of **30 minutes before 9.00am or after 4.00pm** on odd or even days matching house number
- hoses must be fitted with water cut-off trigger or control nozzle
- micro-sprays, with nozzles less than 3mm in diameter, or drip irrigation may be used for a maximum of **15 minutes before 9.00am or after 4.00pm** on odd or even days matching house number
- watering-cans and buckets can be used at any time
- **no domestic water use outside the home on the 31st day of the month.**

#### *New turf:*

- exemptions for establishing new turf are available. An 'Exemption from Water Restrictions to Water New Turf' application is available PMHC website or from PMHC offices.

#### *Cleaning vehicles, boats and outboard motors:*

- car and boat washing (on lawn area): washing may occur with a bucket and one hand-held hose (for rinsing only) **before 9:00am or after 4:00pm** on odd or even days matching house number
- boat motor flushing: can occur for 5 minutes on lawn area only on day of use.

#### *Topping up swimming pools:*

- one hand-held hose can be used for a maximum of **30 minutes before 9.00am or after 4.00pm** on odd or even days matching house number
- hose must be fitted with a water cut-off trigger or control nozzle.

#### *Cleaning houses, driveways, paths and hardstand areas:*

- washing driveways, paved areas, walls and roofs with hoses is banned.
- no chemicals or cleaning products are to be used on driveways, paths or hardstand areas; brooms or air blowers should be used to remove loose material from driveways, paths and hardstand areas with material to be disposed of in green bin or used as mulch on garden.
- buckets only can be used **before 9.00am or after 4.00pm** on odd or even days matching house number.

#### *Sporting fields:*

- irrigation systems can only be used between 1.00am to 1.30am on Monday, Wednesday and Friday.

#### *Public gardens:*

- hand-held hoses can be used between 7.00am and 7.30am on Monday, Wednesday and Friday.

#### *Dust suppression:*

- permitted with recycled water only.

#### *Plant nurseries, bowling greens and commercial market gardens:*

- hand-held hoses only can be used between 7.30am and 9.30am.

#### *Commercial, building and landscaping industries:*

- no restrictions to commercial activities (other than nurseries, bowling greens and commercial market gardens), however water saving initiatives are encouraged.
- dust suppression permitted with **recycled** water only.
- all water usage and associated activities must not cause pollution as defined under the Protection of the Environment Operations [POEO] Act 1997.

***Recycled water:***

- no restrictions on recycled water use.

**2.2.4 Level 3 Very High Water Restrictions**

- all outside use of water sprinklers, fixed hoses, micro-sprays, and drip irrigations is **banned**
- one hand-held hose can be used for a maximum of **10 minutes before 9:00am or after 4.00pm** on odd or even days matching house number
- gardens can be watered by buckets or tank water only
- cars and boats can be washed on grassed areas with a bucket or tank water only
- sporting fields and public gardens can use recycled water only, as per note below; and
- plant nurseries, bowling greens and commercial market gardens may only water under a PMHC license
- no domestic water use outside the home on the 31st day of the month.

***Recycled water:***

- use of recycled water must be in line with Level 1 restrictions for potable water.

**2.2.5 Level 4 Severe Water Restrictions**

- **all external use of drinking water, including sprinklers, micro-sprays, fixed and hand-held hoses is banned**
- gardens can be watered with tank water, or recycled water as per note below;
- sporting fields and public gardens may use recycled water only; and
- plant nurseries, bowling greens and commercial market gardens may only water under a PMHC license.

***Recycled water:***

- use of recycled water must be in line with Level 2 restrictions for potable water.

**2.2.6 Emergency Water Restrictions**

- **all external use of drinking water, including sprinklers, micro-sprays, fixed and hand-held hoses is banned**
- **other uses allowed only as directed and approved by Port Macquarie-Hastings Council**
- gardens can be watered with tank water, or recycled water as per note below;
- sporting fields, public gardens, plant nurseries, bowling greens and commercial market gardens may only water under a PMHC license.

***Recycled water:***

- use of recycled water must be in line with Level 3 restrictions for potable water.