Water Fact Sheet

How to read a water meter

Reading a domestic water meter is quite straightforward. Simply write down all the numbers on your water meter from left to right. This tells you how many litres have been used in total since that meter was installed. Most metres in Alice Springs will have **3 red numbers.** The red numbers indicate litres. The numbers in the white sections represent kilolitres. There are 1000 litres in a kilolitre.

Note: If your meter has 4 red numbers, the last digit represents 10ths of a litre, you may find it easiest to leave this number out. If you do write it down, remember to put a decimal point before it.

In this example, the meter reading is 12,345,000.

Task 3: desertSMART Challenge example

Meter reading 1:

1	7	3	4	3	3	2	9

Meter reading 2:

1	7	3	4	3	3	3	3

Leak check

1) Turn off anything that uses water, including irrigation and swampies, and make sure no one is using water inside the house.
2) Check your water meter and write down the meter reading.
3) Watch your water meter for 5 minutes and observe whether the dials are moving. If you don't have any leaks, the meter reading should be the same. However, if you have a leak, the numbers will have moved. Write down the new meter reading after the 5 mins.
4) Work out how much water is wasted in leaks each year by following these sums:

a) Work out how many litres of water wasted in 5 minutes. Subtract Reading 2 from Reading 1:

_____ L/5mins

E.g. If, after 5 mins, there is an increase of 10, then:
12345010 – 12345000 = 10L/5 mins
That is, a leak of 10L every 5 mins.

b) How many litres wasted in 1 minute. Divide the number you got by 5.

_____ Litres/min

c) Leaks per day

Multiply the leaks in one minute by the number of minutes in an hour and the number of hours in a day.

L/min x 60 (minutes/hour) x 24 (hours per day)

e.g.2 x 60 (minutes/hour) x 24 = 2880L (or 2.88kL)

_____ L/day

d) Cost of leaks in a year

To work out how much that costs, divide the litres by 1000 to convert it to kilolitres and then multiple the daily leakage by the current water price ($1.823) and the number of days in the year.

e.g. 2880 ÷ 1000 x 1.823 x 365 = $1829

$ _____ /year

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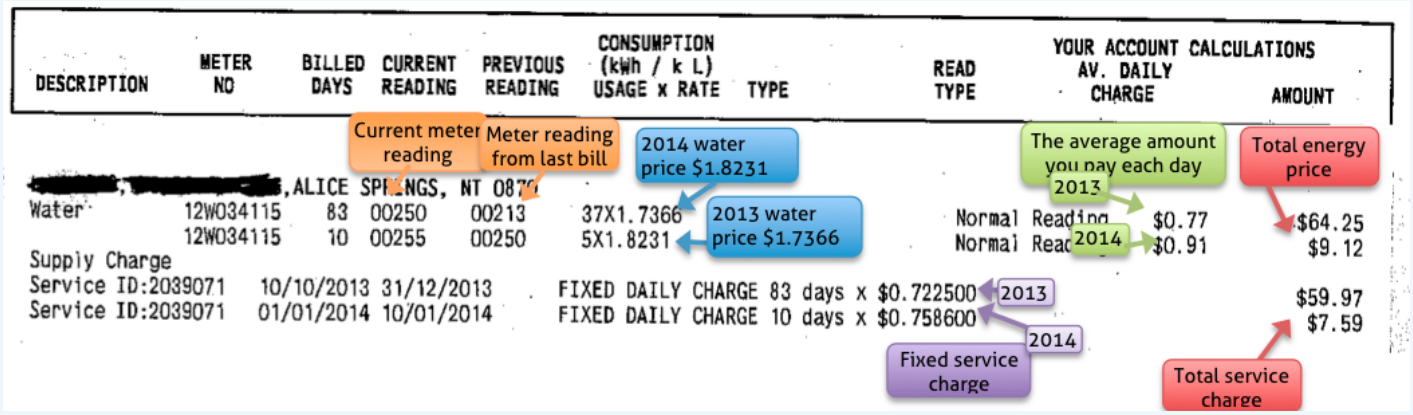

How to read your water bills

In this example, the billing period spans the last 83 days of 2013 and the first 10 days of 2014. There was a price rise during this time, so the billing has been done over 2 separate lines – one for 2013, and one line for 2014.

Meter number: This will be the number on your electricity meter located on your premises.

Billed days: This is the number of days that you are being billed for. Bills usually come every 3 months, give and take a day or two. The billed days should be around 92 days. In this example, it's 10 days from 2014, and 83 days from 2013.

Current reading: The meter reading on the day that your meter is read.

Previous reading: The reading taken on your last bill.

Consumption: How much water you have used during this 3-month period. The unit of measurement it is written in kilolitres (kL). Subtract your current reading from the previous reading to get this number.

Price of water: In January 2014, the price of water rose from $1.7366/kL (kiloliter) to $1.8231/kL.

Fixed daily charge: On top of the price you pay for the water you have used is Fixed Daily Charge. The Fixed Charge is based on the size of your meter and most residents have 20mm-25mm water meters, incurring a charge of $0.7586/day. That is, around 80c each day. This daily charge adds up to $277/year and will be included in your bill.

Average daily charge: This is the average amount you pay for energy each day. It does not include the fixed daily charge.

Your water bill is calculated by multiplying the volume of water you have used by the price of water. Your water use is measured in kilolitres (kL).

Sewerage in Alice Springs is a set price for domestic properties. Unfortunately, this means that saving water won't make dollar savings to your sewerage bill.

1000L = 1 kilolitre (kL)

What is your meter number?

Each water meter is numbered. This number will appear on your bill. This is the number that is engraved into the metal. It will usually be a combination of numbers and letters. If your meter is ever changed over, your meter number will also change.

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Water supply

With low and unpredictable rainfall, and with evaporation rates far exceeding rainfall, surface water is not a viable option for Alice Springs water supply. As such, Alice Springs public water supply is sourced almost entirely from the Roe Creek borefield around 15 km south of town.

The Roe Creek borefield draws water from the Amadeus Basin rock aquifers; 80% of which is from the Mereenie Aquifer System because of higher water quality and yield but also from the Pacoota Sandstone and Shannon & Goyder formations. The underground water at Roe Creek has gradually accumulated over hundreds of thousands of years: some of it comes from ancient floods that occurred when the climate was wetter than it is today and some of it is much more recent, from rainfall, surface water flows and through-flow from other aquifers. The connection between surface water and groundwater is not well understood.

The Amadeus rock aquifers run for many kilometres from east to west. Although the Amadeus basin is large (approximately 170,000 km2) our water is not drawn from the entire basin. These aquifers are relatively narrow and deep, so bores have to be deep and water levels drop relatively quickly.

Alluvial Aquifers

The Town Basin is the second major source of water for Alice Springs and is sourced from an alluvial aquifer sitting directly under the CBD, the Gap, parts of Gillen and Sadadeen. The groundwaters within the Alluvial aquifers entered the ground relatively recently and come from direct rainfall and periodic flows of the Todd River.

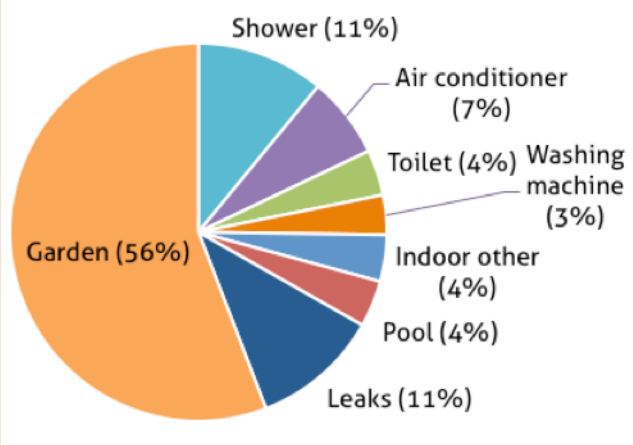
The Town Basin was the main drinking water supply for Alice Springs until 1964, when it was replaced by water supplied from the Amadeus Basin. This was necessary because the Town Basin could no longer provide enough water for the growing population. The water quality is relatively poor by drinking water standards, but is suitable for irrigation. It is now used for irrigating some ovals.

Rainfall and temperature

Rainfall is low, averaging 283 mm per year however annual rainfall totals are extremely variable, ranging from a minimum of 76.8 mm (2009) to a maximum of 782 mm (1974). Due to the variability the median rainfall figure of 238 mm per year is probably the best measure to describe our rainfall. Evaporation rates are also very high at approximately 3m/year, with most of this occurring over the hottest 6 months of the year.

How much water do we use?

Alice Springs has one of the highest consumption rates of water per capita in Australia. In 2019/10, 10,117ML were extracted from the Roe Creek borefields.



From the 1000+ water audits completed during Alice Water Smart, the average Alice Springs' average household water consumption was 784 litres per day whereas the national average is less than 300 litres per day.

In Alice Springs, 56% of household water is used in the garden, while leaks account for 11% of household water use. Non-residential properties waste around 22% water in leaks.

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Are we running out of water?

Groundwater is being extracted at a much greater rate than it is being recharged, meaning water levels in the Roe Creek borefield have dropped from 90 to 160 metres since pumping commenced in 1964. While there is still an ample source of water for the near future, this is not a renewable source and we are now mining our water. It is estimated that there are only 300-400 years of water left in the basin if extraction continues at the current rate.

Why save water?

The key issues with the Roe Creek Borefield are making our water last for future generations, the future behaviour of the deeper aquifer, diminishing water quality as we pump from greater depths, and the economic depth of pumping. New bores will eventually need to be drilled, at great expense to the community. But this can be delayed if we conserve water. Additionally, the effect of water extraction on Groundwater Dependent Ecosystems is not well-known. And this uncertainty needs to be viewed with a cautious approach.

Saving water to reduce Greenhouse Gas emissions

Pumping water from deep underground and into town uses 1100kWh/ML and produces 750kgCO_2-e/ML. By lowering your water use, you are also making a significant reduction in CO2 and other greenhouse gas emissions that contribute to climate change.

Reducing hot water use (if your water is heated using electricity or gas) is a further way to make emissions savings.

Reducing our water use

Everyone has a part to play in lowering the town's water demands and extending the longevity of the available water resources. The key areas to focus on are gardens and leaks, as the majority of water savings can be made in these areas.

Top Tips

- Check for leaks and fix any leaks or dripping taps
- Reduce the frequency of watering, giving plants a bit more water, but less often
- Install efficient irrigation systems such as miniscape lines on veggie patches and rotars sprinkler with an automatic timer
- Irrigate or water in the evening or early morning to reduce evaporation
- Check for leaks in your automatic irrigation system every months or so by turning it on during daylight hours for a few minutes.
- Install a low flow showerhead – this can save tens of thousands of litres over a year and can save hot water too. Also, reduce the length of your showers.
- Run your dishwashers and washing machines on short or "economy" cycles.
- Install tap aerators or flow restrictors into taps.
- Run rainwater from your roof onto the garden, rather than into drain.
- Install a rainwater tank or greywater re-use system.
- Ensure the bleed rate on your swamp is set to around 10L/hour

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