

We The People  
Program 367 February 10, 2020  
We the People 367 Water Down Under



**Good Day to You.** For those of you who had a proper education you will have heard of Helen Keller. She was born in 1880 and passed away aged 88. Helen Keller is an important figure in human history as she was a notable author, political activist and lecturer holding a Bachelor of Arts Degree yet completely deaf and blind. Miraculously one of the first words she actually spoke was the word '**water**' and it's that connection I remember. This is an important and vital word as water is our life blood especially as Australia is the driest continent on earth with just 6% arable land and a relatively low annual rainfall, yet deep within the earth is a supply of fresh water covering **1,700,000 square kilometres**. It is Australia's **Great Artesian Basin** covering over 20% of the continent. The rain falls near the Great Dividing Range then gradually seeps into this massive geological basin slowly flowing to the south to emerge up to 2 million years later. It's a miraculous natural fresh water storage phenomenon and a unique supply for inland Australia. The total estimated volume of water is **64,900 cubic kilometres** of fresh water which is massive and you would think worth looking after.

Unfortunately it's not as its being plundered by some farmers, miners and international interests which often don't care. This incredible resource is measured in both water pressure and the actual underground levels of water, both of which are falling. Sure there is the ubiquitous management plan and I read it but it's almost incomprehensible so therefore largely useless in my view. Assembled by bureaucrats, academia and politicians it doesn't pass the pub test as I see it so in the years to come it's likely the water will be exhausted or polluted as we humans have a special knack for that. Just to give you an idea of the plunder the Adani coal mine will use up to 12.5 billion litres of water from central Queensland and then of course sell the coal to India to be burnt and produce more CO2 inducing further climate change and as a result a drier less hospitable Australia. That's nearly as much water as all the farmers combined use in Queensland so how's that for a double standard. Now to the coal seam gas industry and the curse of fracking which uses massive amounts of water then pumps chemicals into the water table. In fact 80% of the area of the Great Artesian Basin is covered by CSG, gas, petroleum, coal and mining licenses. The waste water is then released back into the environment, containing a toxic mix of chemical pollutants and carcinogens.

Wherever the aquifer is located the naturally stored water is finite and must not be wasted. What better example of unbridled waste than '**water mining**' where this natural resource is pumped up and then bottled as '**spring water**' in often non recyclable plastic bottles. Millions upon millions of plastic bottles all made from petroleum and sold under a lie that its spring water when in fact its bore water. In particular the water miners in northern NSW, Springbrook and Mt Tamborine are culpable vandals operating a futile and destructive business with no concern for the environment. Now on top of all this the immigration rate into Australia is driving the nations population ever upward along with more demand for water and the loss of arable farming land and bush. It's a story of aggregated madness on an industrial scale where we Australians simply say "**she'll be right mate**" which is deceptively stupid and belies our vulnerability. It won't be right mate and science shows it along with those with a modicum of commonsense.

So Helen Keller rightly had a great love for the word '**water**' because it represented a milestone in her life. We too should hold that word in great esteem and we don't, yet our very lives depends on it. Industrial and political greed and avarice swamp our values and flood our God given commonsense. To the land and the generations to come I say, please forgive us and the misuse of the water down under and the dreadful legacy we are leaving you.

**Until next time this is Kent Bayley**

# WATER FACTS

1. "Water" was the first word that Helen Keller learnt.
2. "Water" was the last word spoken by former United States President Ulysses S. Grant in 1885.
3. 1.6% of aid and development funds are spent on water and sanitation.
4. 50 - 80% of wetlands in the Murray-Darling Basin have been severely damaged or completely destroyed. The magnificent Coorong Lagoon near the Murray mouth has lost 90% of the migratory wader birds that once inhabited the estuary. In fact, there is only 11% of the natural estuary at the Murray Mouth left intact.
5. 70% of an elephant is water.
6. 75% of a chicken is water.
7. 75% of people are chronically dehydrated.
8. 80% of a pineapple is water.
9. 82% of the total annual usage of water (19,100 gigalitres) comes from surface water and 18% (4200 gigalitres) is sourced from groundwater (1 gigalitre = 1 thousand million litres).
10. 95% of a tomato is water.
11. A 10 per cent improvement in irrigation efficiency could double the drinking water supply for the poor.
12. A 30g slice of bread is about 40% water.
13. A child dies every 15 seconds from water-related diseases.
14. A half to a third of freshwater fish species native to the Murray-Darling Basin are threatened with extinction.
15. A healthy person can drink about 48 cups of water per day.
16. A mere 2% drop in body water can trigger fuzzy short-term memory, trouble with basic math, and difficulty focusing on the computer screen or on a printed page.
17. A person can live weeks without food, but only days without water.
18. A person must consume 2 litres of water daily to live healthily. Humans drink an average of 75,000 litres of water throughout their life.
19. A person pays about 25 cents for water use on a daily basis.
20. A quarter of the world's population is without safe drinking water.
21. A single tree can give off 265 litres of water per day in transpiration.
22. A tap that drips once every second wastes 30 litres of water daily.
23. A tomato is 95% water.
24. One "sydharb" is the amount of water in Sydney Harbour: approximately 500 gigalitres. This unit of volume is used in Australia to describe the amount of water in large water bodies such as lakes and dams.
25. Warragamba Dam in New South Wales and Sydney's major water supply is described as being "4 times the size of Sydney Harbour". Lake Eucumbene, one of the major dams in the Snowy Mountains Scheme, "holds nine times the volume of Sydney Harbour".

26. A watermelon is 93% water.
27. About 25,700 litres of water is required to grow a day's food for a family of four.
28. Africa withdraws 47 litres per day per person for personal use (drinking, sanitation, cooking, gardens) while the United Kingdom withdraws 334 litres.
29. Agriculture accounts for over 80 per cent of world water consumption.
30. Agriculture uses approximately 15,000 gigalitres of water per annum - which is equivalent to 30 Sydney Harbours.
31. Almost 40 per cent of the world's population lives within 60 kilometres of the coast. Disease and death related to polluted coastal waters alone costs the global economy US\$16 billion a year.
32. Americans use five times the amount of water that Europeans use.
33. An ear of corn is 80% water.
34. An earthworm is 80% water.
35. Approximately 66% of the human body consists of water. Water exists within all our organs and it is transported throughout our body to assist physical functions.
36. Approximately 85 percent of U.S. residents receive their water from public water facilities. The remaining 15 percent supply their own water from private wells or other sources.
37. Around 80 per cent of the Australian population lives on or near the coast.
38. At any given time, half of the world's hospital beds are occupied by patients suffering from a water-related disease.
39. At birth, water accounts for approximately 80 percent of an infant's body weight.
40. Australia currently has approximately 1 million bores in use and this number continues to grow each year.
41. Australia is the highest user of water per person in the world, despite being the driest inhabited continent.
42. Australia is the world's driest inhabited continent. 70% of our land is arid.
43. Australia uses approximately 25,000 gigalitres of water per annum - which is equivalent to 50 Sydney Harbours.
44. Damage caused by salinity costs the Australian economy more than \$250 million annually.
45. Australia's average annual rainfall is approximately 460mm but this has very large variations.
46. Australia's highest dam wall is 180m at Dartmouth VIC and is an earth-rockfill construction.
47. Australia's largest water storage is Lake Pedder (TAS) which stores 12,450 GL.
48. Australia's major artesian (confined groundwater) basin is the Great Artesian Basin (GAB) which is 1711 million km<sup>2</sup> and can discharge approximately 1500ML/day.
49. Australia's water footprint for the period between 1997-2001 was 1393m<sup>3</sup> per capita per year.
50. Average household consumption in Melbourne is 240,000 litres per year, or 5 swimming pools.
51. Baths use less water than a typical shower. Soaking in a partially filled tub will use less water than a short shower.
52. Caffeine is a strong diuretic, increasing the need to urinate.
53. Clean, healthy drinking water is essential to a child's proper mental and physical development.
54. Currently, over 80 countries, representing 40 per cent of the world's people, are subject to serious water shortages. Conditions may get worse in the next 50 years as populations grow and as global warming disrupts rainfall patterns.

55. Depending on the rock type and slope of the land, groundwater can take an average human life-time to travel one and a half kilometres.
56. Drinking adequate amounts of water can decrease the risk of certain types of cancers, including colon cancer, bladder cancer, and breast cancer.
57. Each day almost 10,000 children under the age of 5 in Third World countries die as a result of illnesses contracted by use of impure water.
58. Each day the sun evaporates a trillion tons of water.
59. Each year Australians use enough water to fill Sydney Harbour 48 times - a total of 24 000 GL. Most (19 100 GL) comes from surface water, the rest (5 000 GL) from groundwater.
60. Europe makes use of 75% of its hydropower potential, while Africa has developed only 7%. This is seen to be the possible future cornerstone of Africa's development.
61. Except for 1998, the last 13 years have seen below average inflows to Warragamba Dam, which supplies 80 per cent of the water supply.
62. For children under age five, water-related diseases are the leading cause of death.
63. Four litres of petrol can contaminate approximately 2.8 million litres of water.
64. Freshwater animals are disappearing five times faster than land animals.
65. Half the world's hospital beds are occupied by people suffering from water-borne diseases.
66. Human blood is 83% water.
67. Human bones are 25% water.
68. Human brains are 75% water.
69. Human population growth and the expansion of economic activities are collectively placing huge demands on coastal and freshwater ecosystems. Water withdrawals, for instance, have increased sixfold since the 1900s, which is twice the rate of population growth.
70. Humans cannot drink salt water.
71. Sea birds such as gulls, albatrosses and terns are able to drink salt water and excrete excess salt via specialised salt glands.
72. Humans lose a cup of water a day just by breathing.
73. If 100 litres represents the world's water, less than 1/2 a teaspoon of it is fresh water available for our use.
74. If our water levels drop by 1% we feel thirsty. If they drop by 10% we die.
75. In one glass of water, there are about 8,000,000,000,000,000,000,000 (8 septillion water molecules).
76. In some deserts, rain is so uncommon that the local people do not have a word for it.
77. In the developing world, 90% of all sewage water still goes untreated into local rivers and streams.
78. In the next 20 years, the UN predicts the quantity of water available to everyone will decrease by 30%.
79. In the next two decades, it is expected that 17% more water will be needed to grow food in developing countries and that total water use will increase by 40%.

80. In the past 20 years, over 2.4 billion people have gained access to safe water supplies and 600 million to improved sanitation.
81. In the 1950s Australians consumed around 185 litres of water per day for domestic uses.
82. In total, industry uses less water than homes, but large amounts of water are used for producing everyday items. For example, 200 litres of water for making a pair of pantihose; 600 litres for producing an average chicken egg and 1600 litres for producing an average steak.
83. It doesn't take much salt to make water "salty." If one-thousandth (or more) of the weight of water is from salt, then the water becomes salt water.
84. It takes 2,372,540 litres of water to produce one tonne of steel.
85. It takes 450 litres of water to produce one egg.
86. It takes 5,000 litres of water to produce a kilo of rice.
87. It takes approximately 20 litres to make one board of timber.
88. Its takes 1,340,000 litres of water to produce 1 tonne of aluminium.
89. Lack of water is the #1 trigger of daytime fatigue.
90. Less than 1% of the water supply on earth can be used as drinking water.
91. Less than 1% of the water treated by public water systems is used for drinking and cooking.
92. Logging and land conversion to accommodate human demand has shrunk the world's forests by half, contributing to increased soil erosion and water scarcity.
93. Many countries are forced to extract more water annually than is recharged through their natural water cycles. The strain affects rivers and lakes, but it also degrades groundwater resources.
94. Millions of women and children spend several hours a day collecting water from distant, often polluted sources.
95. More than 2 billion people on earth do not have a safe supply of water.
96. More than 200 million hours are spent each day by women and female children to collect water from distant, often polluted sources.
97. More water is used in the bathroom than any other place in the home.
98. Most of our freshwater is used to grow food.
99. Most of the earth's surface consists of water; there is much more water than there is land.
100. Most of the world's people must walk at least 3 hours to fetch water.
101. Much more fresh water is stored under the ground in aquifers than on the earth's surface.
102. On average in a 100-year period, a water molecule spends 98 years in the ocean, 20 months as ice, about 2 weeks in lakes and rivers, and less than a week in the atmosphere.
103. Once groundwater is polluted it may remain that way for several thousand years.
104. One flush of a Western toilet uses as much water as the average person in the developing world uses for a whole day's washing, drinking, cleaning and cooking.
105. Only 12% of our rainfall in Australia collects in river basins. The rest is used by vegetation, evaporates or is held in natural storages such as lakes, wetlands and aquifers.

106. Only 22% of the population of Ethiopia has access to safe drinking water.
107. Only about 25% of the world's dams are involved in producing hydropower.
108. Our toilets use 23% of the total amount of water used in the average home. 20% of our water use is spent in the shower. 10% is used in the kitchen and 16% is used in the laundry.
109. Over 90% of the world's supply of fresh water is located in Antarctica.
110. Poor quality drinking water kills the equivalent of 20 jumbo jets filled with children every day.
111. Some of the world's largest cities, including Beijing, Buenos Aires, Dhaka, Lima, and Mexico City, depend heavily on groundwater for their water supply. It is unlikely that dependence on aquifers, which take many years to recharge, will be sustainable.
112. The average adult human body contains approximately 37 litres of water.
113. The average American individual uses 378-665 litres of water at home each day. The average African family uses about 19 litres of water each day.
114. The average person spends less than 1 % of his or her total personal expenditure dollars for water, wastewater, and water disposal services.
115. The earth is a closed system, similar to a terrarium, meaning that it rarely loses or gains extra matter. The same water that existed on the earth millions of years ago is still present today.
116. The koala and the desert rat do not drink water.
117. The largest catchment in Australia is the Murray Darling Basin. It extends through four states: Queensland, New South Wales, Victoria and South Australia; and the Australian Capital Territory.
118. The largest dam in Australia is the Gordon Dam in Tasmania. It holds 12.45 million megalitres of water.
119. The longest water supply pipeline in Australia is in Western Australia. It extends from Perth to Kalgoorlie.
120. The oldest dam in Australia is the Parramatta Lake Dam, built in Sydney in 1856. It is still in operation today.
121. The Ramsar Convention, setting aside more than 1400 wetland sites around the world for preservation and protection, is a testimony to the international recognition of the environmental, social and economic importance accorded to these special ecosystems.
122. The salt in Australia's landscapes comes from oceanic deposits from rain and wind.
123. The state worst affected by salinity in Australia is Western Australia.
124. The weight a person loses directly after intense physical activity is weight from water, not fat.
125. There are 1030 water fountains (originally for horses) in Zurich, Switzerland, and all have drinkable water.
126. There are more than 3,800 unilateral, bilateral or multilateral declarations or conventions on water: 286 are treaties, with 61 referring to over 200 international river basins.
127. There has been the same amount of water on Earth for the last 2 billion years.
128. There is 156,000 hectares of land impacted by irrigation salinity in Australia.
129. There is 2.2 million hectares of land impacted by Dryland Salinity in Australia.
130. Three major water attractions in Australia are World Heritage listed. These are Kakadu, the Great Barrier Reef and the Franklin River.

131. Throughout Australia, approximately 15 million megalitres of water are used each year for irrigation purposes.
132. To brush your teeth you use 7.5 litres of water.
133. To flush a toilet we use 7.5 to 26.5 litres of water.
134. To manufacture new cars 148,000 litres of water are used per car.
135. To process one can of fruit or vegetables we need 35 litres of water.
136. To process one chicken we need 44 litres of water.
137. To produce one cup of coffee we need 140 litres of water.
138. Today, the average daily consumption of water per head of population is 500 litres. This includes water used in homes, agriculture and industry.
139. Two thirds of the water used in a home is used in the bathroom.
140. Unsanitary water, which provides a breeding ground for parasites, amoebas and bacteria, damages the health of 1.2 billion people a year.
141. Up to 50 per cent of urban water and 60 per cent of water used in agriculture is wasted through leaks and evaporation.
142. Urban Water uses approximately 2,000 gegalitres of water per annum - which is equivalent to 4 Sydney Harbours.
143. Water as a gas is colourless and odourless.
144. Water can carry dissolved materials along with its flow and it can act as a cleanser and dilute many wastes. Because water is so good at dissolving substances pure water is rarely found in nature.
145. Water can cause serious health damage when it is contaminated by bacteria and other microorganisms.
146. Water can not only be found on the surface, but also in the ground and in the air.
147. Water contributes 65-70% of the weight of muscle and makes up 25% of the weight of fat.
148. Water dissolves more substances than any other liquid. Wherever it travels, water carries chemicals, minerals, and nutrients with it.
149. Water has a very high surface tension. In other words it is elastic and sticky and tends to clump together in drops rather than spread out in a thin film.
150. Water helps break down carbohydrates fat and protein.
151. Water helps to maintain healthy body weight by increasing metabolism and regulating appetite.
152. Water is one of the best known solvents.
153. Water is the most common substance found on earth.
154. Water is the only substance that is found naturally on earth in three forms: liquid, gas, solid.
155. Water is the primary mode of transportation for all nutrients in the body and is essential for proper circulation.
156. Water leads to increased energy levels. The most common cause of daytime fatigue is actually mild dehydration.
157. Water leads to overall greater health by flushing out wastes and bacteria that can cause disease.
158. Water leaves the stomach five minutes after you drink it.
159. Water lubricates the joints and also lubricates food in the mouth and digestive tract.
160. Water maintains the shape of cells and tissues.
161. Water makes up 60 to 70 per cent (by weight) of all living organisms and is essential for photosynthesis.

162. Water naturally moisturizes skin and ensures proper cellular formation underneath layers of skin to give it a healthy, glowing appearance.
163. Water regulates the temperature of the human body. If you have caught a fever you should drink lots of water.
164. Water removes waste from the human body.
165. Water stored and released from reservoirs is measured in megalitres. A megalitre is a million litres and would fill a room which is 10 metres cubed.
166. Water use has increased from 1985 to 1996/7 by 65% and water is overused in some regions. Water extracted for irrigation has increased by 76% from 1985 to 1996/7.
167. Water-efficient garden practices ( e.g. mulching, drip watering) could save 4,000 ML per annum.
168. While the daily drinking water needs of every person is approximately four litres, between 2,000 and 5,000 litres of water are needed to produce an individual's daily food requirements.
169. While the daily recommended amount of water is eight cups per day, not all of this water must be consumed in the liquid form. Nearly every food or drink item provides some water to the body.
170. Within 25 years, half the world's population could have trouble finding enough freshwater for drinking and irrigation.
171. Women produce between 60 and 80% of the food in most developing countries. They are major stakeholders in all development issues related to water, yet they often remain on the periphery of management decisions and planning for water resources