

Questions and Answers

The irrigation industry has a significant role to play in water use, management and conservation in our urban communities. This role and the issues are not clearly understood by the community in general and even the decision makers. The following Q and As address some of these.....

What is the biggest issue facing the irrigation industry in urban Australia?

The sustainable use of our water resources is the single biggest issue we all face and people really need to understand that irrigation can play a vital role in **saving** water. However the challenge for the irrigation industry is actually to get regulators and the public to see irrigation as **part of the solution**, not part of the problem.

In the rural sector improved irrigation technology and practice are seen as the solutions to water shortages and governments correctly encourage and subsidise farmers to upgrade their irrigation equipment and skills. Yet in urban environments governments have restricted the very same water saving approach.

The Irrigation Association of Australia is committed to long term and sustainable reductions in water use while at the same protecting and maintaining essential parks, gardens and sports fields.

What are some of the other issues in urban water conservation?

There is a pressing need for:

- recognition of the importance of green open space and living plants to our health and well-being. Research has shown that natural environments have a positive impact on both.
- secure water allocations for the maintenance of these vital community assets
- Improved understanding of the role and capability of professional irrigation
- government support and encouragement for adoption of best practice and innovation in irrigation and water conservation

Within the irrigation industry there is the need for:

- greater levels of training, qualifications and professionalism. The IAA has developed best practice guidelines, training programs and professional recognition through certification and is committed to continue to raise the standards of practice.
- improved public education which has begun. The IAA, together with other water associations, has developed the Smart WaterMark to identify water saving products and services and help consumers make informed choices. The Association also publishes the *Guide to Good Garden Watering* for consumers.
- Increasing the awareness of the capacity of professional irrigation to improve water use efficiency and conserve water.

Professional irrigation can lead to significant water savings. Water use in agricultural irrigation dropped by 23% from 2000-01 to 2004-05 initially due to improved practice although more recently by the drought. Over the same period domestic household consumption was down 8% and manufacturing was up 11%.



Previous experience suggests that when mandatory restrictions are removed, people revert to old behaviour and much of the water savings are lost. Even in the short term it is unlikely that we can save 20% of water use sought by some water authorities by applying mandatory restrictions to just the 15% used for garden irrigation.

It is imperative that we develop a water conservation strategy that leads to long term changes in the way people view and use water and that encourages innovative new technology and water use efficiency.

How important are our outdoor spaces in urban communities?

As towns and cities become more densely populated, as houses get bigger and gardens smaller, the importance of green open space grows. There is increasing evidence that communities that have sufficient areas of green open space have lower levels of childhood obesity, greater levels of personal health and wellbeing, and lower energy costs for heating and cooling.

Each week over 1.6 million children play organised sport in Australia and chances are that most are playing on an irrigated sports field. Each week millions more enjoy parks, their backyards, courtyards or balconies relaxing, playing, entertaining or gardening. Gardening consistently ranks in the top five leisure pastimes and gardeners have lower self reported levels of health concerns.

The Real Estate Institute of Australia indicate that an attractive garden can add around 10% to the value of a property and a scan of the real estate catalogues shows the value of a leafy suburb.

All these outdoor spaces need not be sacrificed for ill conceived water policy when they can be protected and enhanced at the same time as water use is reduced and we change long term behaviour towards water conservation.

What role does irrigation play in the urban community?

Irrigation is an integral part of our urban environments. Green open spaces, trees in the street, plants in any home garden all need water to survive and flourish (although not as much as most people think.)

Smart irrigation can deliver precisely the right amount of water at the right intervals to maintain healthy growth, whether it is the grass on a sports field or a shrub in a home garden.

Uncontrolled watering with a hose leads to wasted water. Studies by the Cooperative Research Centre for Irrigation Futures have shown that most people over-water their gardens and for most of Australia there is no need to water twice a week; yet this is precisely what current restrictions encourage. **If water is well applied most gardens can survive on much less water than is currently being used.** Unfortunately current restrictions actually encourage poor practice rather than good watering practice - which is about applying the right amount of water, when the garden needs it using methods that achieve even distribution of water to the root zone.



How big is the irrigation industry in urban Australia?

Much bigger than most people realise. When it comes to irrigation many people think agriculture and rural use, but every local council and anyone who waters their garden or a pot plant is an irrigator.

The irrigation industry employs thousands of people in the manufacture of irrigation systems for both rural and urban communities, the installation of systems for public spaces, plus consultants and designers to help get the most efficient use of water possible. The value of the urban irrigation industry would be over \$3 billion a year in Australia.

The broader lifestyle horticulture sector provides liveable cities and sport and recreation facilities for the community. That translates to a value of over \$9 billion in landscaping, parks and gardens, golf courses, nursery sales, irrigation equipment and in wages paid to over 100,000 people employed in these sectors.

This sector is being needlessly damaged when they are the very people we need to implement long term water conservation in outdoor water use in our cities.

What role can irrigation and the industry play in reducing water use in Australia?

The irrigation industry not only helps in the effective delivery of water to plants, but it also can help in reducing water consumption.

Good water management is about more accurately and effectively applying water to landscapes and gardens when and where they need it. It is not about turning off taps and forcing people to water in highly visible but usually inefficient ways.

Reducing water use does not have to mean killing our parks and gardens.

The irrigation industry is committed to improving urban water conservation through technology and best practice; it is part of the solution when it comes to efficient water use.

Much can be done right now; professional irrigation:

- has identified the potential for a 30% improvement in open space irrigation from better maintenance of equipment and better user knowledge about water scheduling
- can reduce domestic water use from around 500 litres an hour used by hand watering to around 80 litres per hour using 40 emitters on a drip irrigation system.
- has enabled one Queensland AFL oval to use half the average amount usually used, while still providing adequate irrigation for the turf and a safe playing surface.

These are just some examples of savings which can be achieved now. With greater user knowledge and the application of technology, the IAA estimates that an average water savings of 30% can be achieved in irrigated open space by encouraging good practice and innovative technology.

Some organisations around Australia are demonstrating this:

- Western Australia Golf Club – with the installation of a computer controlled system which can turn on and off individual sprinklers when needed the Club has reduced its water use by



- around 150,000 litres a year – a third of its previous consumption.
- Townsville City Council – with a new Central Irrigation System installed in 2004 with soil and weather monitoring and a sub-surface drip irrigation system, they have achieved a water use efficiency increase of around 50%.

What is 'smart' irrigation?

Smart irrigation means applying just the right amount of water to the right spot at the right time to keep plants or turf growing and healthy.

A smart irrigation system can measure rainfall and the amount of water in the soil and turn the irrigation on only when the soil is dry. As soon as the soil is holding the optimal amount of water the system is switched off. The water is applied evenly to the right area. Different amounts of water can be applied to different areas so that the lawn, the roses and the cacti all get only the amount of water they need. This saves water.

'Smart' in fact means best practice when it comes to irrigation. It is the combination of user knowledge coupled with good design, installation and maintenance of irrigation systems. For the irrigation industry it means innovation and the latest technology to produce efficient watering systems, installed by skilled technicians.

Is the cost of smart irrigation the biggest hurdle that has to be overcome to get wider use?

'Smart' doesn't equal 'expensive'! A smart system can be installed in an average backyard for around \$5,000.

Smart means efficient and effective but also good value for money, when the added value of a good garden is taken into account in real estate investment. A good garden can add 10% or around \$40,000 to the value of a typical home, making a smart irrigation system an insurance for this investment..

Is it fair that people who can afford irrigations systems should be allowed to use them when others have to use a hose?

This is not an issue of equity; it is about using smart technology to cost effectively save water and reduce the cost to tax payers of new water supply infrastructure. Those who have smart irrigation systems can make a **contribution** towards water saving!

If governments were smart, they would be providing rebates for efficient irrigation systems to make them accessible to more in the community.

Some progress is being made; the WA Government provides rebates for some Smart Water Mark approved products and promotes the use of professionally certified installers.



Why do state governments and their water authorities have different requirements/laws when it comes to urban/home irrigation?

Simply because they do not base their programs on sound irrigation practice or science, but on what is easy to police and what they consider to be of lowest priority – outdoor water use.

In fact across Australia, gardeners and more importantly, gardens, are bearing the brunt of water restrictions unnecessarily.

Despite what the public are often told, garden water use accounts for as little as 15% of the total water supply in most cities. This could be even less if smart irrigation systems were encouraged rather than banned. It just doesn't make sense!

Can a home irrigation system help a household save water?

YES! There are the four basic principles of good irrigation – applying the right amount of water, watering at the right time, even watering and watering to the root zone. An effective irrigation system can achieve these better than other watering methods.

A study of 50 suburban homes in Sydney showed that water use in the garden varied from 70 kilolitres per 100 square metres a month to less than one kilolitre – a 70 fold difference! Sydney Water's own education program (Love Your Garden) showed that the biggest cause of wasted water in the garden was the practices of the homeowner.

Critical to an effective irrigation system is design and planning, selection of the right types of irrigation gear and then the installation, maintenance and operation of the system. Unfortunately, lack of knowledge is the main problem that results in wasted water.

A Sydney study in May 2006 highlighted the fact that effectiveness of irrigation depends on:

- the system of irrigation,
- whether or not a controller is used,
- the system is designed and maintained properly and
- whether the home owner has appropriate irrigation skills and knowledge.

There are relatively few owner installed irrigation systems in operation, a typical home owner does not know how to design and manage an irrigation system and maintenance is usually neglected, the study reported.

All these factors can be overcome; it is time we educated people about smart systems which are based upon how much water plants need.

Can the Irrigation industry provide a simple irrigation system which could become the standard for home gardens?

If only it were that easy!

Just as every garden is different, the system needed to water it efficiently will vary. But the principles are the same: apply only as much water as the soil can hold, apply it only as fast as the soil can absorb



it, apply it where it is needed and only when the plants need it.

The industry has recommendations for developing systems which can meet individual needs. The publication 'Your Guide to Good Gardening' is the perfect starting point to learn more about effective and efficient watering. Employing a certified professional is also a sound investment in water conservation and protecting your garden.

What is the IAA doing about our water problems?

The IAA supports long term water conservation measures and a greater focus on the responsible use of water in all irrigation. In some cases restrictions are necessary and in these circumstances the irrigation industry shares the burden. However a long term strategy to promote efficient water use, educate the public to undertake permanent changes in the way they use water and encourage continuing innovation in irrigation technology will deliver sustainable water savings and protect the green open space and gardens so vital to healthy towns and cities.

The industry is leading by example and funding a range of water conservation initiatives:

- the Smart WaterMark allows consumers to recognise water saving products and services
- certification of industry practitioners recognises the skills of members and promotes professionalism
- auditing programs assist water users to measure the efficiency of their irrigation
- best practice guidelines to set standards across the industry
- *Guide to Good Garden Watering* for homeowners
- continuing innovation and commitment to water conservation.

Can we just source more water to solve our problem?

We hear talk of desalination plants, tapping into underground aquifers and building new dams to increase our water supplies.

All are possible, some more expensive options than others.

Better management of our existing water resources is needed NOW. There is a need for ideas and solutions to save water, and measures to encourage people to adopt these new ideas and solutions.

What can you do to help?

Everyone can do their part by supporting government programs to encourage water conservation in the home. These are sensible, public education campaigns aimed at improving water use behaviour.

With outdoor water use learning about, understanding and advocating sensible and responsible management of water is just as important.

Regulations are need to support water conservation, but regulations that lead to long term changes, promote good practice and encourage innovation and new technology, just as programs aimed at indoor water conservation and agricultural irrigation do.

Ask you local Member of Parliament and your water utility why poor watering practice is being encouraged and smart new technology is banned.

For more information:
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