



A thirst for water savings drives Northern Territory utility

Power and Water Corporation

Challenged with a growing customer base and unpredictable wet seasons, sustainable water consumption is front of mind for the Northern Territory's only water utility.

Project overview

A powerful mobile mapping tool is helping Power and Water Corporation shore up Darwin's sustainable water future and saving customers two million dollars per year in the process.



Power and Water Corporation in focus:

Power and Water Corporation is responsible for water and sewerage services across the Northern Territory, an area of more than 1.3 million square kilometres.

In the Darwin region, water resources are under greater pressure than ever before. Power and Water Corporation, through its Living Water Smart program completed more than 700 residential water audits and 50 commercial and government audits. The audits showed that approximately 15 per cent of Darwin's water consumption was the result of leaks.

To specifically target this water waste in a cost-effective way, Power and Water Corporation designed the Community Leak Program to reduce leaks in the region whilst increasing community awareness of the water and money wasted.

“Initially, we found one in every eight homes had a leak. So far, we've fixed 3,000 of them, saving more than one billion litres of leaking water per year.”

Tori Hampton, Water Efficiency Project Manager
Living Water Smart, Power and Water Corporation

The challenge:

Power and Water Corporation saw that water lost through leakage was a major contributor to water wastage.

To tackle the problem, the corporation first needed to identify where the leaks were. This involved updating its infrastructure and maintenance information to provide operational and asset management teams with the data needed to make informed decisions regarding its maintenance program.

At the heart of this update was the checking of around 30,000 residential water meters for signs of leaks. To undertake this task efficiently and effectively, Power and Water Corporation needed a mobile, reliable and user-friendly data collection system that would allow its team of leak checkers and 18 different plumbing companies to receive and capture data out in the field. They also needed to be able to integrate this information back into their existing corporate systems for further analysis.

The solution:

Central to Power and Water Corporation's solution were two user-friendly, mobile mapping applications that plumbers and the corporation's own leak checkers used to record relevant data accurately in the field and upload it to an operations centre in real-time.

With each group using their own purpose-built survey app, leak checkers recorded the locations and volumes of leaks, while plumbers subsequently recorded the leak repair and confirmed the volume. By replacing tasks previously conducted using a pad and pen, the apps have vastly improved efficiency and data quality by standardising data collection and removing paper trails. Additionally, should there be any future incidents, asset data can now be instantly accessed, enabling many issues to be resolved from the office instead of sending another contractor to the site.

The apps have also empowered the plumbing sector to carry out Power and Water Corporation's sustainability objective of saving water through fixing leaks. Simply using the app has built awareness in the industry about leak identification and repair, thereby extending the longevity of the program. It is hoped that leak checks will become 'business as usual' for the Darwin plumbing sector and residents, as they now understand the sheer volume of water that is wasted and subsequent water costs.

To date, almost 3,000 leaks have been repaired, while more than one billion litres of leaking water is now saved each year.

The innovations:

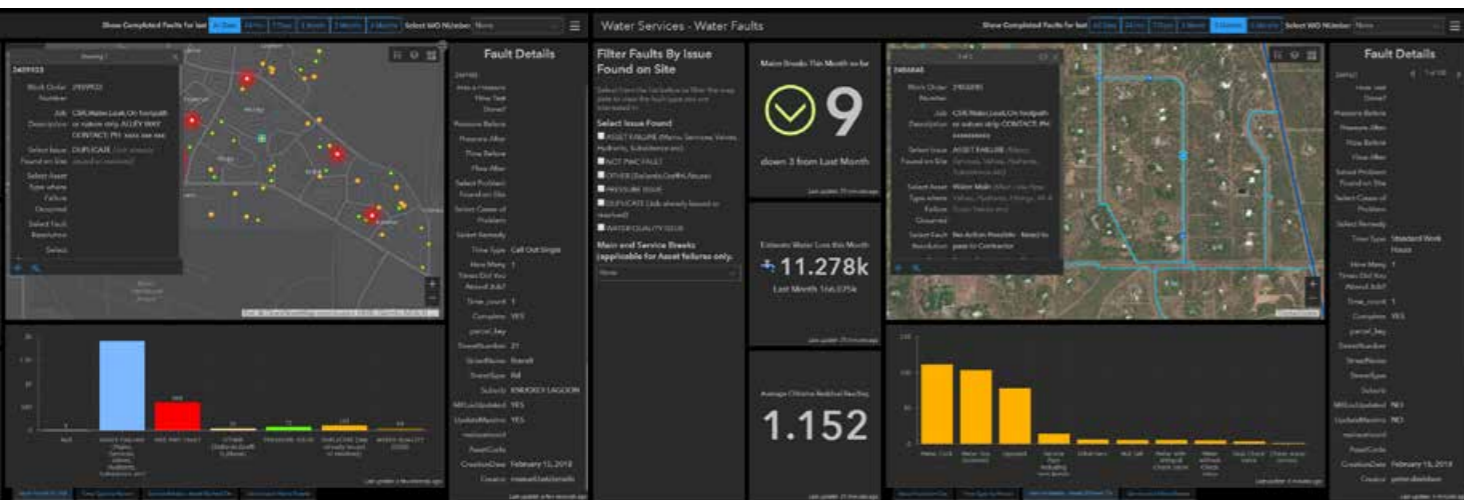
The award-winning Living Water Smart program used highly successful mobility applications that were the first of their kind in Australia. The apps were recognised and highlighted as a key innovation at the industry-leading OzWater conference, and have been roundly praised by government, utility and plumbing sector stakeholders.

By replacing old technology infrastructure, surveying and monitoring processes, the apps revolutionised data collection for Power and Water Corporation by allowing field workers to enter information directly into the system in real-time. This significantly raised efficiency, data integrity and reduced costly double-handling and multiple visits to the same site.

The data has also provided Power and Water Corporation's operational and asset management teams with vital technology infrastructure and maintenance information that now informs decision-making across the board.

“The app will also be extended to existing and future programs – such as field auditing on vital Power and Water assets – which will dramatically reduce data handling.”

Tori Hampton, Water Efficiency Project Manager
Living Water Smart, Power and Water Corporation



The outcomes:

The solution has been a central contributor to Power and Water Corporation's efforts to improve Darwin's sustainable water future and deliver financial savings for its customers and the community at large.

Key outcomes include:

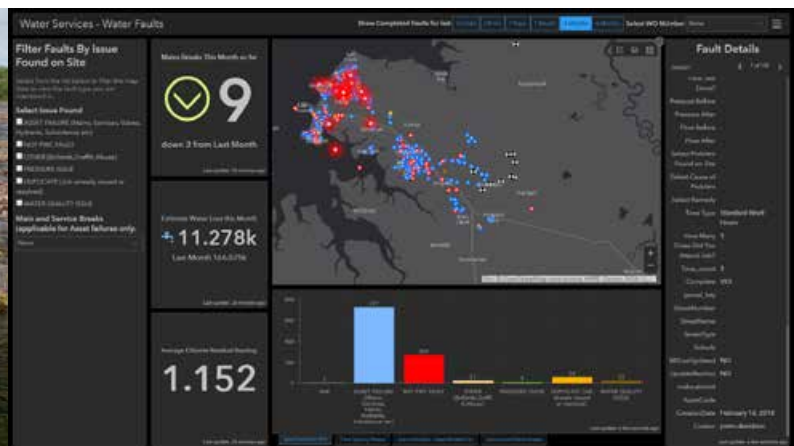
- + **Repairing nearly 3,000 leaks** and saving more than a billion litres of leaking water per year.
- + **Reducing water bills by 2 million dollars** per year.
- + **Automating data integration processes**, saving around \$200,000 in personnel costs.
- + **Broadened and strengthened relationships with the other Government agencies** and the local plumbing industry, with all parties benefitting from collaborative knowledge and skill sharing.
- + **Significantly building awareness across stakeholders and implementing a culture within the plumbing industry** of acting against water loss and wastage.

Solution mix:

- + ArcGIS Online
- + ArcGIS for Desktop
- + Collector

“By using this software, we saved the cost of two full time administration resources and an external consultant: around \$200,000.”

Tori Hampton, Water Efficiency Project Manager
Living Water Smart, Power and Water Corporation



For more information on Power and Water Corporation's use of GIS technology, visit esriaustralia.com.au/gis-in-water-utilities.

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