



Channel Control Solutions

It's the ability to integrate that makes the GateKeeper Modernisation Solution the obvious choice!

Efficient management of water is critical for the future of irrigated agriculture as climate change and ongoing drought reduces the amount of available water

Much of Australia's irrigation system is made up of earthen gravity channels with flows managed manually using drop-bar regulators. Water is supplied to service points on properties via mechanical meter wheels. This system of irrigation is highly inefficient with one third of the water releases from storages lost to outfalls, leakage, evaporation and inaccurate metering.

Conversion from ancient, outdated technology is easy the range of Electromagnetic Water Meters including the innovative Emflux 2030 Dethridge Wheel replacement, and a range of Ultrasonic and Pressure based level sensor that couple seamlessly to our Remote Telemetry and Automation Systems.

The ability to integrate with on-farm and remote third party equipment also sets the GateKeeper System apart from others, and the modular and expandable format of our hardware solutions coupled with the reliability of the SCADA based Network Control Software makes for an un-paralleled level of reliability and versatility.

Measure

Accurate Measurement of Water Flow> Water Level> Water Quality> Line Pressure

Monitor

Remote Monitoring of Gate Position> Pump Status> Storage Levels

Master

Control and Manage Actuators> Pumps> Irrigation Systems> Filtration

Customized Software for Compliance Reporting> Demand Planning Software>

Modernization Solutions

- Water Meters
- Channel Depth Sensors
- Storage Level Sensors
- Remote Telemetry
- Gate Automation
- Pump Automation



Case Study

Harvey Water

South Western Australia



The **Harvey Water Irrigation Area (HWIA)** is located to the west of the Darling Scarp on the Swan Coastal Plain, around 100 kilometers south of Perth. It covers an area of 112,000 hectares (around 75 km long and 15 km wide) in three Irrigation Zones of Harvey, Waroona and Collie.

The HWIA is different from most Australian irrigation areas because it does not have a longitudinal river system from which water is diverted or pumped.

There is currently around 10,000 ha of land under permanent irrigation for dairy farming, beef grazing and horticulture, with a total irrigable area of approximately 30,000 ha.

Water is supplied via a gravity fed pipe and channel system, using some 2,000 individual supply points, sourcing water from seven dams along the Darling Scarp from Waroona in the north to Wellington Dam near Collie in the south. The system spans over 112,000 hectares, with more than 450km of pipelines and 250km of channels.

With an ageing infrastructure and high running costs, Harvey Water identified the requirement for a remote monitoring and control system that would allow for complete management of the infrastructure and allow for future expansion.

Several systems were explored before a fully customized GateKeeper System was chosen.

Aquamonix was commissioned by Harvey Water to provide a centralized channel control solution to control and maintain water levels at the major supply points using actuator controlled gates, ultrasonic level sensors and flowmeters.

Water Meters, Level Sensors, Water Quality were all integrated to the GateKeeper Controller or monitored remotely via the Web-Logger Data Gateway.

Project Overview

- Fully Integrated and Automatic channel control systems to route water based on requirement ordered from offtake user.
- Demand Planning Software.
- Billing and Compliance Software.



Control Hardware

- GateKeeper Control Modules.
 - Monitoring & Control of Channel Gates.
 - Integration of Third Party Actuators.
 - Monitoring & Control of Pump Stations.
 - Monitoring of Channel Levels.
 - Cellular 4G Communications to all sites.
 - Solar Powered to some sites.
- Web Logger Data Gateway
 - Monitoring of Water Meters
 - Monitoring of Level Sensors
 - Monitoring of Water Quality Sensors
- Supply, install, test and commission.



Central Control Software

- Customized RainMan SCADA Central Control Software.
 - Real time trending and data monitoring.
 - Compliance Monitoring Software.
 - Ongoing Customization Program.
- Remote Access via Web Enabled Devices.

For more information, contact Aquamonix or your nearest distributor.