



AUTOMATED WATER MANAGEMENT FOR IDAHO WATER DISTRICT 63

Smart Infrastructure Supports Water Conservation Efforts
By Using Sustainable Technology

MANAGEMENT CHALLENGES

As the Western United States struggles with increasingly severe bouts of drought and extreme weather conditions, state and local governments are recognizing the need to modernize critical water infrastructure. According to the data collected from the USDA, Washington, Oregon, California, Idaho, Nevada, Montana, Utah, Arizona, and North Dakota are all facing historic levels of extreme weather. These unprecedented conditions are increasing the threat of wildfires, damaging agricultural systems, and leading to potential water insecurity.

Recognizing the Need to Act

Idaho Water District 63 draws much of its resources from the Boise River in Idaho. Severe droughts have already diminished snowpack runoff in recent years. Failure to act in the face of these growing drought conditions could result in water insecurity for both urban and rural communities. The Boise Basin relies on the 102-mile river for farming, ranching, forestry, fishing, and tourism. District 63 recognized the need to modernize its century-old water operational processes.

Manual Management Threatens Sustainability

Prior to 2021, Boise River management depended on significant investments of personnel, time, and capital to regulate this limited resource. Past water infrastructure required manual monitoring with a delay of up to a week, using data from the previous week to make determinations for next week's headgate levels. Along with the threat of water scarcity, due to increased irrigation demands, extreme weather changes, and less snowpack, full automation would have helped save nearly 8,000 to 15,000 acre-feet of water, according to Idaho News.

"We are still managing water on the Boise River like it was 1920," explained Idaho Water District 63 Watermaster, Mike Meyers.

If we want to be good stewards of water and save all we can, then we ought to use 21st-century technology.

THE SOLUTION

With the advent of the IoT, organizations are finding ways to solve important problems experienced by communities across the country. Ethos Connected, the nation's largest public carrier-grade LoRaWAN™ (Long Range Wide Area Network) network provider, partnered with Cisco to build a smart management system to automate parts of the Boise River and transmit real-time data to operators.

Monitoring, Controlling, and Securing Valuable Resources in Real-Time

Ethos Connected's LoRaWAN network, leveraging Cisco's Ultra-Reliable Wireless Backhaul, deployed an advanced solution that now monitors, controls, and secures the flow of water, all while transmitting the information directly back to Idaho Water District 63 on an easy-to-manage dashboard.

“(Before this IoT water systems project), we were still managing water on the Boise River like it was 1920.

If we want to be good stewards of water and save all we can, then we ought to use 21st-century technology that gives us the tools and ability to do so. Any way that we are able to save water through automation or other programs gets us excited.”

– Mike Meyers
Watermaster
Idaho's Water District 63



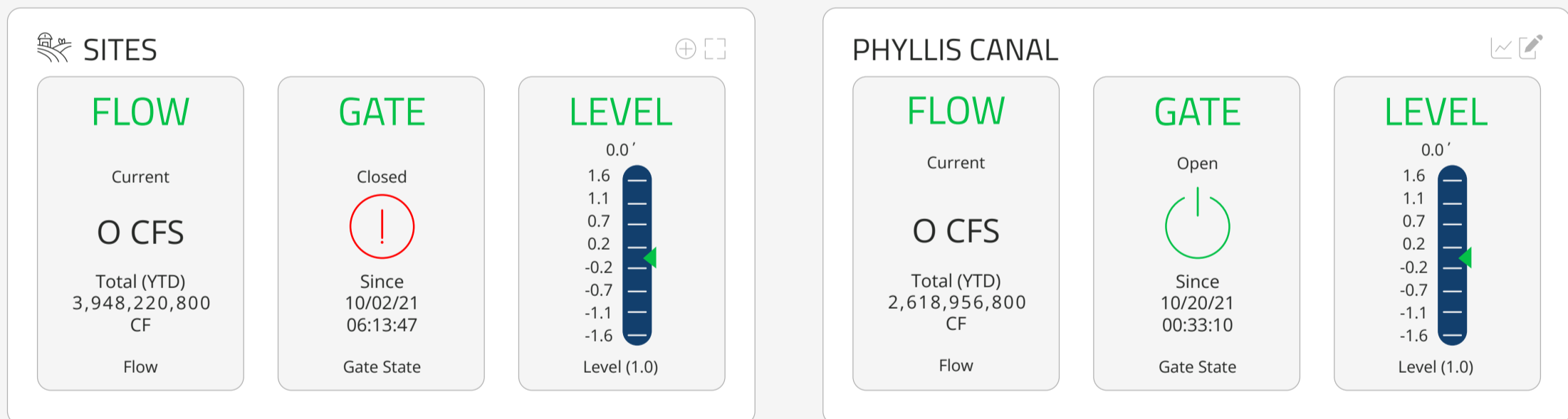
RESULTS

Idaho Water District 63 estimates water savings of 9,000-15,000 acre-feet within a six-month season. This will equal nearly 32 Olympic-sized swimming pools of water per day. The upgrades made today will cultivate more sustainable water management for decades to come.

By capturing real-time data on the Boise River’s movement, its use, and current allocation, the district can now respond rapidly to changing conditions.

Now, watermasters like Mike Meyers can visualize their most relevant metrics at each critical water site in real-time on Ethos Connected’ user-friendly dashboard. Meyers and his team use the real-time data to make daily adjustments to the system, leading to optimized usage and huge daily savings.

Technology vs. Traditional Solutions: How They Compare



While other government agencies may consider increasing reservoir storage capacity at \$3,000/acre-foot to mitigate concerns about water scarcity, the solution from Ethos Connected equates to \$300/acre-foot, or 1/10th the cost.

Plus, it delivers far superior results in terms of reducing the amount of capital distributed to supplementary employee costs and payroll, lower maintenance costs, and data points delivered in real-time instead of weekly.

FOR MORE INFORMATION

Ethos Connected, boasting North America's largest contiguous carrier-grade LoRaWAN network, is rebuilding and returning relevance to the industries they serve by helping businesses and communities leverage technology by using rapid, transformative connections. Their ability to illuminate gaps in efficiency drive informed decision-making and ultimately revolutionize their customer's ability to do business. Ethos Connected makes water management smarter, safer, and more sustainable. Find out more at: <https://ethosconnected.com/>

Summary

Business Challenge

- Extreme weather (drought) is exacerbating the need for modernized critical water infrastructure to mitigate water scarcity in urban and rural Idaho communities.
- The harsh desert plain's rural and urban communities rely on the Boise River to support local farming, ranching, forestry, fishing, and tourism.
- Watermasters spend time and money visiting 88 sites along the Boise River weekly, only to then have to rely on aging data to make manual adjustments once a week.

Network Solution

- Ethos Connected partnered with Cisco to create a smart water system for the regional water district.
- Automated parts of the Boise River with a Ethos Connected' LoRaWAN network.
- Combined Ethos Connected' water management expertise to create an IoT-enabled water solution.
- Smart water technology monitors, controls, and secures the water flow while transmitting the information in real-time directly to a dashboard at the water district

"Water is the most important resource on Earth. Leveraging technology to increase water resiliency, efficiency, and simplify management makes a significant difference for agriculture, communities, and the nation. We are focused on implementing secure IoT smart water solutions that will amplify the impact automation and technology has across the country."

- Julie Bushell
President
Ethos Connected



(928) 282 2783

team@ethosconnected.com

www.ethosconnected.com

