Rezatec

Case Study: Bella Vista Property Owners Association

At the forefront of dam safety

BELLA VISTA
PROPERTY OWNERS ASSOCIATION

Water SAT – Dam Monitoring

Overview

First established in 1917 as a summer private resort destination and in 2008 as a city, Bella Vista in Benton County, Arkansas, offers some of the finest fishing, boating and outdoor recreation experience in the region. With 36,000 acres of rolling hills, waterfalls, hiking and biking trails, the Bella Vista Property Owners Association team manages the land, properties and overall recreational experience.

The Lakes and Parks team, headed by Rick Echols, Lakes and Parks Superintendent, looks after the long-term maintenance of the Association's amenities, which include seven lakes and seven dams. "We're focused on keeping these dams safe: that means knowing about any risks to people and property downstream of these seven dams and staying on top of any issues," explains Rick.

The Challenges

One of the Association's strategic objectives is to optimize planning and financial forecasting for long-term maintenance: "Repair of existing services and assets needs to be efficient and effective to allow resource and budget allocation or service expansion," Rick adds. "We also have a duty of care to keep our communities safe, and we have to be on top of any issues that may expose us to regulatory or insurance penalties."
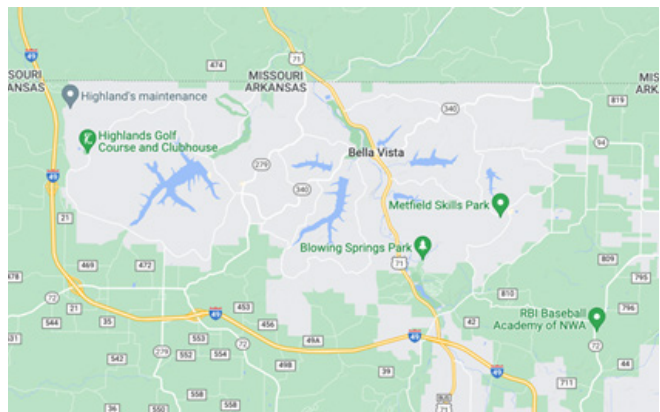
With a relatively small Lakes and Parks team, the challenge is to demonstrate to stakeholders they are doing their due diligence to make sure each dam is in line. "A quick Google search reveals that dams do fail, sometimes with catastrophic consequences," says Rick. "Here at Bella Vista, we have some downstream hazards and highways. The liability falls on us, so it's important we have every bit of data on the integrity of our dams and, if something is starting to go wrong, we know about it and act on it."

The Solution

Rick and his team turned to Rezatec and its Dam Monitoring geospatial AI product because of its capability to track ground motion, vegetation and seepage problems across all seven dams.

"We're using the data to identify change to our dams' integrity as visual inspections can lack detail and be open to interpretation. Our biggest job is mowing and maintenance, and the mowing crew is our eyes on the ground. They noticed a wet spot on an embankment; the Rezatec data showed no change, so we believed it wasn't a major problem. A visual inspection confirmed that the wet spot is in a shady area that never dries out and the data corroborated this," continues Rick.

"Some of our dams can't be readily mowed because of piping structure. The dams we can't mow we try to burn, working with the city fire department, and now we're looking at doing a prescribed burn. The ideal timing for this is Spring, close to the growing season so the grass will be blackened for as little time as possible. We will pick that up with Rezatec's vegetation analysis."

In addition, Rick's team is using Dam Monitoring to manage risk and potential liability. "We value the breadth of coverage which means we can track issues across all our assets – and to millimetric accuracy on a fine scale. It's good to know it's that precise and if we have issues they will be detected," Rick explains. "We have full confidence there are currently no problems. But because of the quantifiable points from which the data is derived, we can say what the problem is, where it is, what the trends are, what's happening, and do something about it early."

"Ageing dams can go on with the right maintenance. With Rezatec, we have a proactive approach and we're making data-driven, more informed decisions to fixing small issues before they become a big consequence. We now know our dams are fairly stable, and it gives us a layer of peace of mind that we're doing everything we can to ensure public safety," concludes Rick.

"We value the breadth of coverage which means we can track issues across all our assets - and to a millimetric accuracy on a fine scale."

Rick Echols, Lakes and Fisheries Superintendent,
Bella Vista Property Owners Association