Consolidated Database Design and Data Management System for Northern Colorado

NORTHERN COLORADO WATER CONSERVANCY DISTRICT

PROJECT SUMMARY

The Northern Colorado Water Conservancy District required a district-wide database design and data management system to more efficiently manage and share data. Riverside Technology, inc. developed a system to meet the needs of the Northern Colorado Water Conservancy District that included Riverside Technology inc.'s RiverTrak® system.

LOCATION
Colorado, U.S.A.

PERIOD
1999 – 2006

PROJECT DETAILS

Overall data management and timely water resources data interpretation are important objectives for the Northern Colorado Water Conservancy District (NCWCD). Riverside Technology, inc. (Riverside) was contracted to provide a district-wide database design based on needs expressed by district personnel. Interviews were conducted by Riverside staff and structured around the organization's business functions as determined by NCWCD management.

Courtesy NCWCD

Pine Wood Reservoir, part of the Colorado - Big Thompson Project

Information collected during the needs analysis was then used to produce the district-wide database design. A number of additional factors were considered, including:

- Data normalization
- Ease of data access
- Performance
- Ease of system and data maintenance
- Pre-existing systems

In several cases, the existing systems were determined to be adequate and important, so these were documented to the extent possible and incorporated into the consolidated design. The database design was developed using the ERwin design tool to develop the database model. Deliverables included an entity relationship diagram, database dictionary, and database schema.

Riverside also worked with the District to implement real-time data processing with the RiverTrak® Watcher product. The RiverTrak® system is a proprietary Windows-based PC tool developed by Riverside that runs continuously in conjunction with external real-time hydrologic data collection systems. It allows the District data to be collected and analyzed, perform data processing tasks (e.g., convert stage to discharge, create hourly or daily average data values, etc.), and produce products to display on the District's website. The project has enabled the NCWCD to use additional tools more effectively to monitor and manage its vital water resources.

Courtesy Utah Division of Water Resources

RELATED PROJECTS

Streamflow Forecasting to Optimize Water Supply Operations for Colorado's East and West Slopes

Real-Time Forecasting and Reservoir Operations Model for River Basins in New Hampshire

South Platte Decision Support System

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