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Merrick Collects LiDAR Data for 17,677-Square-Mile Rainwater Basin Project



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Aurora, Colorado - Merrick & Company ([Merrick & Company](#)), working for Optimal Geomatics under a contract with the U.S. Army Corps of Engineers is collecting light detection and ranging (LiDAR) data over a 17,677-square-mile area in order to create a digital elevation model. The digital elevation model will be used in natural resources, agricultural planning and management, and to update the flood maps in the area. More specifically, it will serve as part of the wetland restoration index, a tool that is being used to prioritize habitat protection and restoration activities to achieve the greatest wetland biological return for the habitat investment dollar and for stream restoration on the Platte River as part of the Platte River Recovery Implementation Program. The project area covers almost all of south central Nebraska and four counties in north central Kansas.

The Rainwater Basin project involves multiple agencies including the Rainwater Basin Joint Venture. This joint venture was formed in 1992 to address the problem of declining migratory waterfowl habitat. The Venture's goal is to restore and permanently protect 37,000 acres of high-quality wetlands and 25,000 acres of associated uplands with adequate water and distribution to meet the habitat needs of waterfowl and other migratory birds. The organization also provides the structure by which multiple agencies can work together to address natural resource issues through projects that also improve migratory bird habitat. Through that organizational structure, this project also involves the U.S. Department of Agriculture Natural Resources Conservation Service, U.S. Fish and Wildlife Service; the U.S. Geological Survey, Platte River Recovery Implementation Program, the states of Nebraska and Kansas, and numerous local entities.

The LiDAR information being collected includes hydrologic modifications that impair a wetlands ability to function; delineation of wetland watersheds, which due to the low relief in most of the project area, can only be identified using LiDAR technology; soils mapping; elevation data that will help in planning and designing terraces, buffers along streams, and stream restoration to help reduce water pollution and maintain the land's sustainability; and dam breach analysis to model the effects of dam breaches and the areas that would be flooded if that were to occur.

The Rainwater Basin (www.rwbjv.org)

The Rainwater Basin is a landscape that was formed at the end of the last ice age, when glacial winds carved thousands of shallow, bowl-shaped depressions that are now fed by rainwater and melting snow. It is the narrowest portion of the migration route known as the Central Flyway, the path that spans a mere 150 miles, where many millions of waterfowl rest, feed, and pair on their annual migrations. These migratory birds include three to six million snow geese, four million mallards, 900,000 white-fronted geese, 900,000 pintails, plus millions of other migrating birds, including Canada geese, shorebirds, and cranes. Throughout much of the twentieth century, wetlands were drained for farming, bisected by roads or silted-in by erosion, until only about ten percent of the original Rainwater Basin wetlands remain.

Optimal Geomatics www.optimalgeo.com

Optimal Geomatics specializes in the science and technology of gathering, analyzing, interpreting, distributing, and using geographic information. The company applies the disciplines of aerial surveying, mapping, remote sensing, geographic information systems (GIS), and global positioning systems (GPS) to translate remotely-acquired raw imagery into reliable and intelligent digitally-mapped data for use in applications such as land management, environmental information management, and engineering design.

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Merrick & Company ([Merrick & Company](#)), an \$85 million geospatial mapping, engineering, architecture, design-build, and surveying firm, serves domestic and international clients in the government, energy, life sciences, infrastructure, and mapping markets. With a focus on the highly technical field of geospatial surveying and remote sensing, the firm's most recent work includes providing mapping services for the U.S. Army Corps of Engineers; Cook County, IL; Xcel Energy; and the U.S. Air Force Space Command.

More information on Merrick can be found in the company's newsroom at [Merrick & Company Newsroom](#).

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