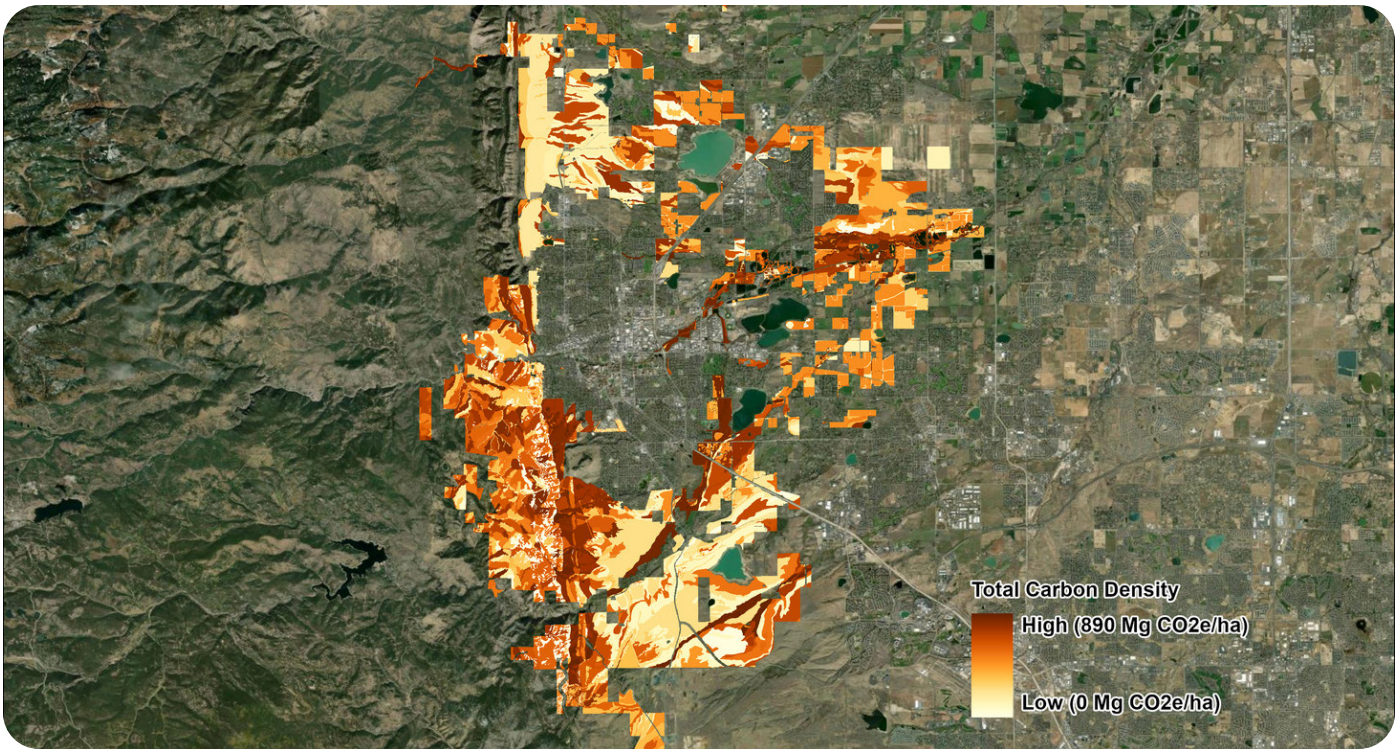
City of Boulder Open Space and Mountain Parks

Boulder Land Based Carbon Inventory

Boulder, Colorado



A carbon inventory and management analysis inform efforts to enhance ecosystem resilience on more than 45,000 acres of preserved and protected land in Colorado's Front Range.

SERVICES

Climate Adaptation & Resilience
Conservation Planning
Ecological Restoration
Nature Based Solutions

The City of Boulder's Open Space and Mountain Parks Department (OSMP) manages over 46,640 acres of preserved and protected land. Like much of the region, this land is threatened by projected increases in drought and fires and altered precipitation associated with climate change. OSMP sought to evaluate the potential of nature-based solutions to enhance ecosystem resilience on OSMP lands in ways that would honor the agency's mission to protect nature, agriculture, and visitor experiences while also supporting the City's climate goals and targets.

To do this, they first needed to understand the carbon storage capacity of their land and the risk of carbon loss, primarily from wildfires. To help managers decide how and where to prioritize land management such as planting trees, thinning forests, leading prescribed burns, and restoring hydrology to protect and augment carbon stored in OSMP lands, Biohabitats and project team member Sustainability Solutions Group created a model of carbon flux across a range of climate change and management scenarios. Model development relied on expert input from a wide swath of local and national carbon sequestration and climate risk thought leaders.

The final model synthesized local data, primary research, and output from the U.S. Forest Service's Forest Vegetation Simulator to parameterize the variability associated with above and belowground carbon storage for a range of management and climate scenarios. Based on the analysis, Biohabitats also provided recommendations for capturing and storing additional CO_2 from the atmosphere on OSMP lands.