# NSF Convergence Accelerator's 2023 Cohort Phase 1 Award

## Project Title
Measuring and Mitigating Land Management Impacts on In-Stream Water Quality with Sensor-Informed Data Fusion and Community-Led, Climate Financed Riparian Restoration

## Awardee
SweetSense Inc.

## Award/Contract #
24C0011

## Award Contract Type
R&D

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## NSF Funded Program
NSF Convergence Accelerator

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## PROJECT ABSTRACT
Half of America's rivers are impaired. Underserved communities are often the most impacted by poor watershed health. Point-source river discharges are regulated under the Clean Water Act, while non-point sources are largely unregulated. These environmental and regulatory realities are subsequently putting increasing pressure on water and wastewater utilities to address riverine water quality. In many cases, gray infrastructure could be substituted with green infrastructure, including riparian, floodplain, and wetlands restoration; regenerative agricultural practices; improved forestry management; and other efforts to reduce non-point source contamination.

The team's convergence research includes co-designing improved decision-making and permit-writing processes, green infrastructure deployment, and monitoring technologies with landowners, utilities, municipalities, and state-level environmental regulators starting in Colorado. The team's innovations include: (1) a carbon credit methodology and state-level policy advances to enable the deployment of private climate finance to incentivize green infrastructure deployment, and (2) data science to directly measure and attribute water quality improvements to green infrastructure deployment in a way that is scientifically sound and that stakeholders and regulators find credible.

SweetSense Inc. (doing business as Virridy), is leveraging NSF Small Business Innovation Research supported patented technologies for fusing sensor and remote sensing data; the University of Colorado Boulder and Colorado State University with expert faculty in the topics of instrumentation, remote sensing, data science, behavioral science, water resources, water quality and lifecycle analysis; the City of Steamboat Springs, community nonprofit Friends of the Yampa, the City of Fort Collins, community nonprofit the Coalition for the Poudre Valley Watershed, and sensor hardware provider In-Situ Inc.