

NRCS 2017 Conservation Innovation Grants

Project Fact Sheet

Lead Organization Name: The Freshwater Trust

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Duration of Project: Three years

Project Title:

Streamlining Regulatory Compliance and Conservation Planning: Data Analytics Applications for Producers, Planners and Agencies

Project in a Sentence:

The Freshwater Trust (TFT) will use the 2017 Conservation Innovation Grant (CIG) to develop a data-driven system for planning, managing and tracking the implementation of on-farm actions that help growers in California's Solano County meet multiple water quality and quantity objectives.

Project Elevator Pitch:

Virtually every industry is evolving in the digital age to manage the delivery of goods, services and insight more efficiently and precisely. Natural resources management is no different. The overall goal of this project is to demonstrate how data analytics applications can improve the effectiveness of large-scale programs to manage surface water and groundwater resources.

TFT will work with Resource Conservation Districts (RCDs), NRCS field office staff and other stakeholders in Solano County to develop a decision support tool that evaluates and optimizes multiple field scale management improvements for sub-drainage and basin scale water resource objectives. The tool will augment existing planning tools and watershed models with field scale data, making it possible to compare and contrast the modeled ecological and economic impacts of a suite of on-farm actions, tailored to a specific site.

Beyond providing individual producers with the foresight to develop appropriate and cost-effective management plans for their operations, the tool will aggregate field scale data to illustrate how these actions contribute to water quality and quantity objectives at the sub-drainage and basin scales. This will lead to more strategic targeting of conservation actions and enable conservation practitioners to identify areas where producers may be vulnerable to inadvertent violations. This project will create new opportunities for groups of producers to improve outcomes by coordinating practices across multiple hydrogeologically connected fields.



Deliverables:

At the end of the proposed project period, conservation practitioners in Solano County will have an interactive system to help EQIP-eligible producers plan and prioritize on-farm actions, and a secure reporting and tracking system to facilitate adaptive management and streamline compliance reporting. The system methodology will be transferable to the varied agricultural landscapes and ecosystems of California, and easily adaptable for managing conservation programs elsewhere.

How We Are Innovating in Natural Resources Conservation:

TFT's approach uses analytical tools to scale up the relationships of practices at the field scale to improvements at the basin scale. TFT will create visual planning tools that compare and contrast the economic and ecological outcomes under different crop, water, nutrient and conservation practice scenarios. This level of foresight will enable individual producers or groups of producers, producer coalitions, municipal and regional governments, regulatory agencies, environmental advocates and conservation professionals to interact in order to achieve basin water objectives in innovative ways.

This work is timely due to the growing disconnect between the administrative structures forming to manage activity associated with water improvements throughout the U.S. TFT seeks to help reintegrate groundwater and surface water management through a common set of planning tools to visualize and manage resources collaboratively, managing regulatory risk. California has long been viewed as a national leader, and the successful demonstration of an innovative approach to resource management here will influence developing holistic water management efforts across the country.

