Vermont AgBMP Multi-Partner Geospatial Database

STONE ENVIRONMENTAL

esri Partner Network Silver

Services / Expertise
Geospatial & Data Solutions
Application Development
Database Management
Web Hosting

Markets
State Government
Diverse GIS

Project Location
Vermont

Date Completed
December 2016

Project Owner
Vermont Agency of Agriculture, Food & Markets

Project ID#
14-243

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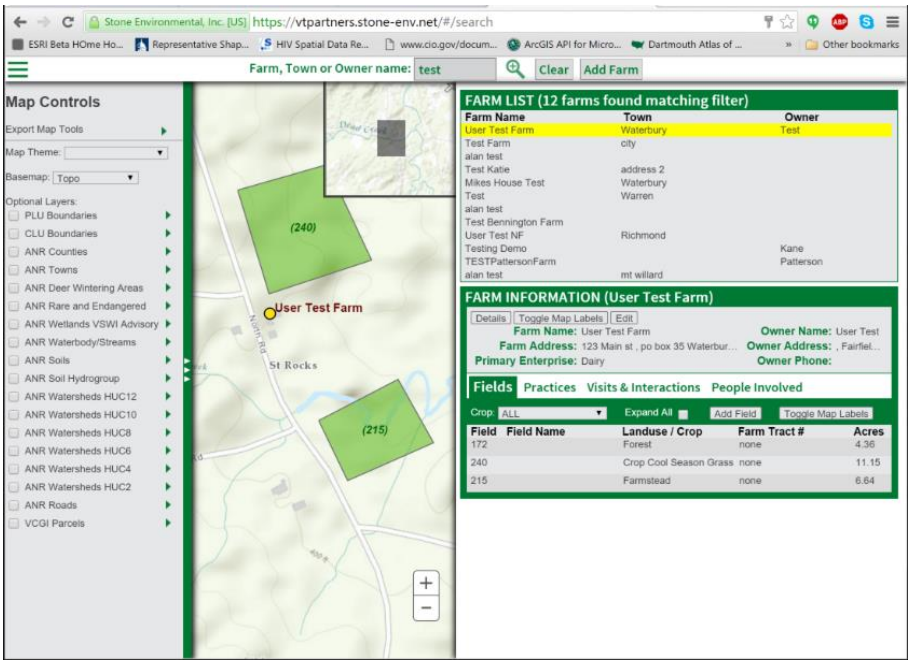

View of Farm Field Practice and Cropping Information in the AgBMP Geospatial Database.

THE AgBMP Multi-Partner Geospatial Database Application will enable the Vermont Agriculture Water Quality Partnership to collaborate and communicate about farm conservation efforts, long-term strategic planning, and ultimately to improve agronomic impacts to water quality while maximizing the wise expenditure of resources. The Partner Database provides up-to-date, farm field data that helps field staff plan and coordinate Best Management Practice (BMP) implementation and supports long-range planning across and within agencies to maximize resources and improve agronomic impacts to water quality.

This single information exchange, repository, and reporting system for farm assessments, plans and practices will greatly aid efforts to improve efficiency and effectiveness of Vermont's agricultural water quality BMP implementation over time. The application helps to reduce redundancy and improves communication among farm conservation planners. Authorized users are able to drill down to a farm field of interest, determine what activities have already been planned or implemented, and what organization provided assistance.

The partner organizations involved in this project include the Vermont Agency of Agriculture, Food and Markets (VAAFM); the Vermont Department of Environmental Conservation (VT DEC); the United Stated Department of Agriculture Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA); the United States Fish and Wildlife Service (USFWS); the Vermont Association of Conservation Districts (VACD); the University of Vermont Extension

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Service (UVM Ext.); and the Lake Champlain Basin Program (LCBP). Over 100 individuals are expected to use the application when completed.

Data Layers for Use in Application

LiDAR elevation rasters and hillshade derivatives
Digital Elevation Models (DEMs) (10m, 30m) and hillshade derivatives.
Most recent USGS topographic maps.
County Boundaries
Town Boundaries
E911 roads layer / major roads layer.
SSURGO soils data layer for Vermont.
Watershed boundaries (HUC8, HUC 10, HUC 12)
True color, infrared, and B&W orthophotography – current and historical.
Surface water layer(s).
VSWI wetland layer.
All available precipitation data.
Deer wintering areas.
Well-head protection areas.
USDA Conservation Land Unit (CLU) boundaries

In this project, Stone was responsible for a number of task, including:

- Web geospatial database design, configuration, development, and installation, and application hosting;
- Compilation, clean up, and formatting of partner data;
- Data entry from USDA and VAAFM databases;
- User acceptance testing;
- Database deployment; and
- End user training and support.

The application is built using a number of COTS tools including: ArcGIS Server 10.3x's Javascript API, PostgreSQL, Angular JS, and CSS.

A Vermont runoff monitoring station set up and monitored by Stone Environmental.