

# GIS Solutions for Watershed Management

## UPPER SUSQUEHANNA COALITION HORSEHEADS, NEW YORK

USC is a network of county natural resource professionals who develop strategies, partnerships, programs, and projects to protect the headwaters of the Susquehanna River and Chesapeake Bay watersheds. USC works with more than 800 area farmers to implement best agricultural management practices (BMPs) with the primary goal of improving water quality by reducing sediments and nutrients entering the river system.

### Client Needs:

**Improve data management processes.** Simplify data handling techniques from field collection to reporting.

**Improve data consistency & reduce duplicated efforts.**

Replace standard field forms containing questions open to interpretation and provide means to avoid replication of data collection efforts.

**Provide accessible and integrated reporting mechanism.**

Make it easy for regulators to obtain certain summary data (farm specifics are confidential) and provide USC personnel access to full reports that incorporate field data and available spatial information.

### Sewall Solution:

**Web-hosted application.** Allows field personnel from remote locations to access central database to edit or revise data without special and expensive GIS application software.

**Streamlined data forms.** Generate field reports with pick-list and auto-response mechanisms.

**ESRI ArcGIS Server™ functionality.** Allows web editing of GIS and farm assessment data, performs spatial queries and prepares maps from aggregated data layers including statewide orthophotographs, county parcel maps, and USC-specific data.

### Client Benefits:

**Improved strategic decision making capabilities.**

Combining spatial characteristics of BMPs and farm attributes provides leaders with powerful tool for enhancing environmental protection strategies and tactics.

**Reduced project costs.** Field personnel directly enter data into central databases using standardized forms - no rework.

**More efficient reporting.** Regulators and staff can generate detailed reports on-demand based on set rights and privileges.

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The screenshot displays the 'Upper Susquehanna AEM Data Management System' interface. It features a map on the left and a data entry form on the right. The form is titled 'Tier I BMP' and 'AEM Tier I Assessment:'. It includes a 'Year' dropdown menu and 'New', 'Edit', and 'Delete' buttons. The form lists various land use categories and assessment questions with corresponding input fields.

Land use in acres:	Owned	Rented
Tillable Land	<input type="text"/>	<input type="text"/>
Grazed Land	<input type="text"/>	<input type="text"/>
Perennial Hay	<input type="text"/>	<input type="text"/>
Woodland	<input type="text"/>	<input type="text"/>
Total Acres	<input type="text"/>	<input type="text"/>

  

	Y	N	?
Manure Spreading?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manure Storage?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pesticide Use?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pesticide Storage/Mixing?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presence of Barnyard or Feedlot?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presence of defined streams within or adjacent to farm?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



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