Hanover Engineering

Hemlock Woolly Adelgid Mapping

CAD, GIS & GPS

The Hemlock Woolly Adelgid (HWA) is an invasive aphid-like insect that attacks and kills eastern hemlock trees throughout the eastern United States. The eastern hemlock is the state tree of Pennsylvania and is a very important species growing along our lake shorelines and coldwater streams, providing valuable wildlife habitat, protecting water quality, and creating a beautiful evergreen backdrop.

Lake communities, fishing clubs, and other conservation organizations throughout the region have turned to Hanover Engineering to assist with mapping and management recommendations, as well as program development for HWA. The immense scale of this problem, combined with limited resources, necessitates a plan that utilizes Geographic Information Systems (GIS) to map tree coverage and HWA infestations, which in turn helps to determine the most appropriate and cost-effective treatment strategies. Of similar importance is the mapping of treatment areas to monitor and identify success, and plan for future treatment.

Our GIS department incorporated existing data from completed HWA forest impact studies to develop a web-based mapping application with a custom set of tools for staff, volunteers, or contracted foresters to use for monitoring changes in the health of the forest, as well as track the effectiveness of treatment activities. These tools utilize the latest in ArcGIS Online Web Mapping and Mobile Application Technology to allow various users to hit the ground running with minimal training and without advanced knowledge in GIS mapping software.

While management of HWA was the initial focus of the project, other web-based data collection tools for mobile devices were created to help staff manage their properties more efficiently and effectively. Specifically, Hanover Engineering developed tools to allow easy mapping and data collection for stormwater systems and for damages to properties and structures caused by wildlife. The potential for use of GIS by these and other groups is endless, and Hanover Engineering is looking forward to developing new tools as needs arise.

PROJECT DETAILS

- **Location**
  Pocono Mountains
- **Client**
  N/A
- **Completion Date**
  February 2019
- **Total Project Cost**
  $4,000