The Forest Health Protection Aerial Survey:

Developing a Results Viewer

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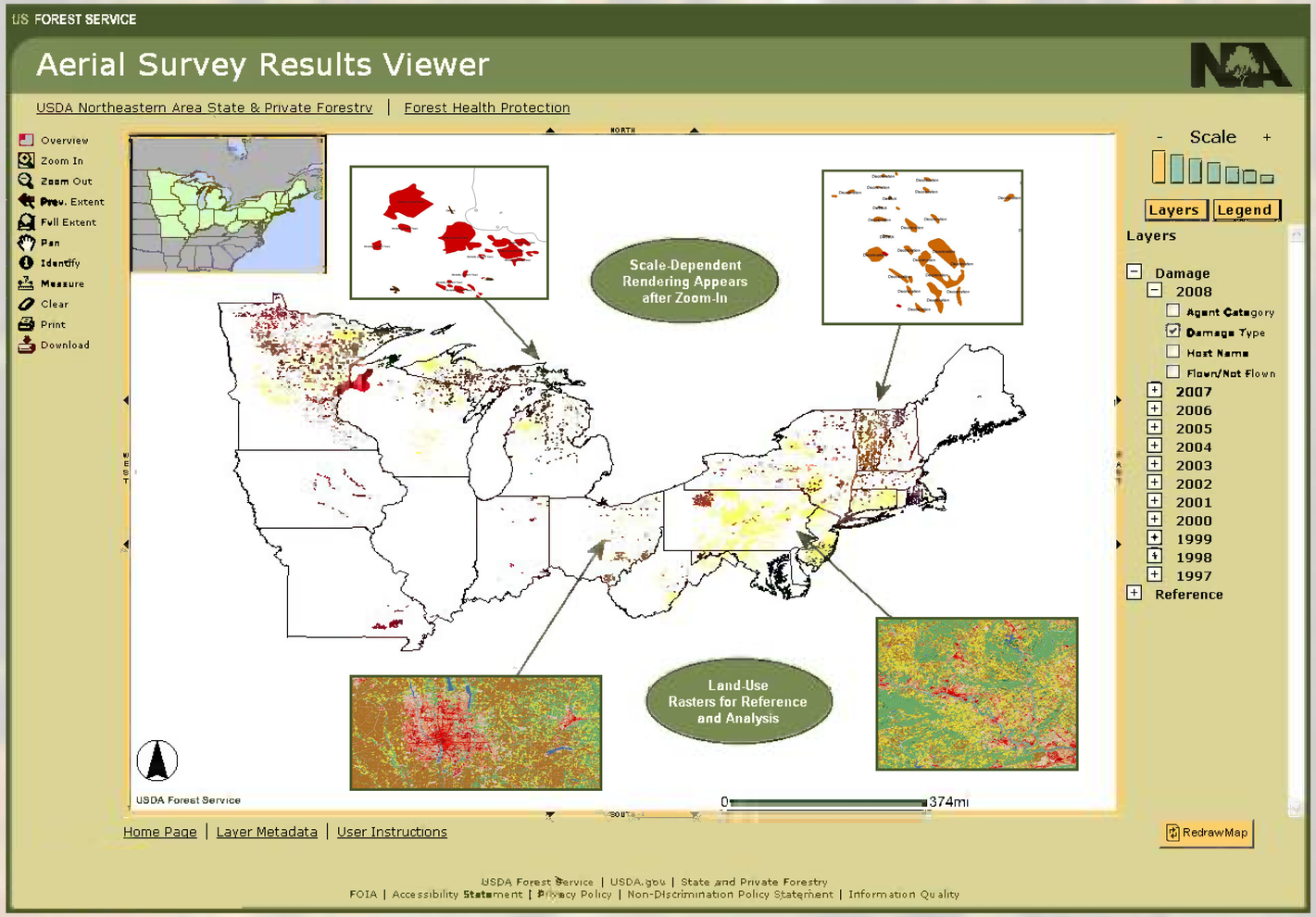
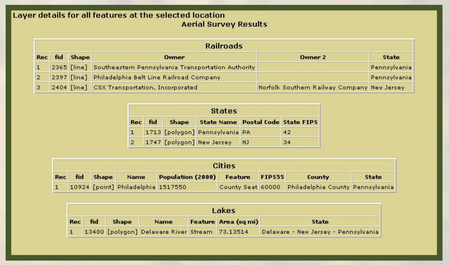
The Forest Health Protection Aerial Results Viewer is a web-based application used to view and download information collected by the Forest Health Protection Aerial Survey Program. The Aerial Survey Results Viewer provides a variety of benefits to forest health professionals, though its chief assets are undoubtedly the clear presentation and centralization of aerial survey data. Using the Viewer's tools, reference data, and survey data, foresters can conduct accurate and detailed analysis of forest health, not only across geographies but also through time. The data shown in the viewer represents a collection of survey results conducted by a variety of federal and state agencies throughout the 20-state USDA Forest Service Northeastern Area.

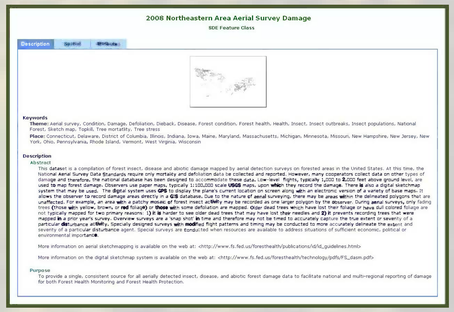
Although the Viewer's development is complete, there are several possibilities for future enhancement. Beginning with 2008 data, the Aerial Survey Results Viewer will include not only survey data layers, but also layers showing which areas have and have not been surveyed. And, new rasters may be incorporated into future releases, allowing users to compare chronological differences in land-use and forest damage patterns.



Creation of the Aerial Survey Result Viewer made possible with cooperation from: The United States Department of Agriculture, The United States Forest Service, The United States Forest Service – State and Private Forestry, Iowa Department of Natural Resources, Illinois Department of Natural Resources, Minnesota Department of Natural Resources, Indiana Department of Natural Resources, Michigan Department of Natural Resources, Wisconsin Department of Natural Resources, Missouri Department of Natural Resources, Connecticut Agricultural Experiment Station, Delaware Department of Agriculture, Maine Forest Service, Maryland Department of Agriculture, Massachusetts Department of Conservation and Recreation, New Hampshire Department of Resources and Economic Development, New Jersey Forest Service, New York Department of Environmental Conservation, Ohio Department of Agriculture, Ohio Division of Forestry, Pennsylvania Bureau of Forestry, Rhode Island Department of Environmental Management, Vermont Department of Forests, Parks, and Recreation, West Virginia Department of Agriculture. 2008, 2009 USDA Forest Service North Central Research Station, St. Paul, MN

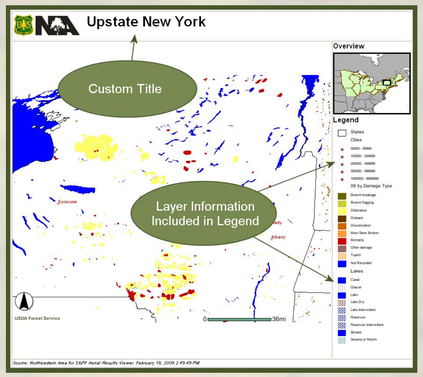


The **Identify** tool allows users to see features' tabular data, which is stored "behind the scenes" in a spatial database. Using the capabilities of ESRI's ArcSDE and ArcIMS programs, users can access this data through the site. Meaning, a user does not have to download the data to access all of a feature's attribute information.

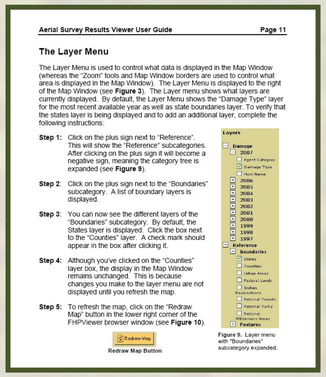


Every layer included in the Aerial Survey Viewer (including reference layers) has an associated **Metadata** webpage. This allows users to easily verify the dates, accuracy, and meaning of layers and their attributes. In addition, all downloadable Aerial Survey layers include metadata in XML format. XML can be used with ESRI's ArcCatalog, allowing users to store data and metadata in a central location on their local machines.

All Aerial Survey layers are available for **Download** from the Aerial Survey Results Viewer website. The layers can be downloaded, and are transferred via "Zip" files. Each Zip folder includes the layer's spatial data (stored in NAD 1983 projection) and metadata (stored in XML). Also, beginning with the 2008 Aerial Survey, users can download "Flown/Not Flown" layers, which show areas that have or have not been surveyed.



The Aerial Survey Results Viewer includes a **Print Form** function, which allows users to create their own printable maps. Each print form is a capture of the Viewer's map window, and includes legend information, an overview map, and a customized title. The print form is specifically designed for letter-sized paper and, depending on the focused area, can be designed for both portrait and landscape formats.



Should a user encounter problems while operating the Viewer, a full set of **User Instructions** are available through the website. These instructions are available in PDF format and include graphics with step-by-step instructions. Therefore, regardless of technological expertise, any user can easily master the functionality provided by the Aerial Survey Results Viewer and its associated webpages.