



Vermont

### **1. Organizational Approach to GIT:**

Vermont's Forestry Division (<http://www.state.vt.us/anr/fpr/forestry/>) is a part of the Department of Forests, Parks and Recreation (DFPR), which is a department of the Agency of Natural Resources (ANR) (<http://www.anr.state.vt.us/>). The Division has been a user of GIT since 1978. Since then, the Division, DFPR and ANR have continued to enhance and expand GIT capabilities to solve forestry and other natural resource problems. The Division uses and develops GIT at an individual project level and statewide basis. The Division is a decentralized organization and GIT capabilities are installed in each Forestry District and County Forester Office. Of the 68 employees in the Division, approximately 25 have knowledge and basic training in GIT, while about 6-8 have a working knowledge of GIT and its uses. The Chief of Forest Management serves as the lead GIT contact within the Division, but has no specific GIT responsibilities. The District IV Forestry Manager coordinates the development and field application of data bases used in state lands management. Additionally, this person holds the title of Ecosystem Forester for the Department, which adds the responsibility of coordinating all map projects with the U.S. Forest Service (USFS) in the World EcoMap Project for ecoregion mapping. The Survey Unit of DFPR's State Land Division provides information and assistance to the Department, the Division, and the general public on GIT issues. On a broader scale, DFPR utilizes personnel in the Information Technology (IT) Division of ANR for training and technical assistance in GIT projects. At the present time there are no Division or Department policies related to GIT use. Financial constraints and the lack of resources such as personnel and equipment, as well as training, hamper the complete implementation of GIT goals. The Division is addressing these issues on an incremental basis.

### **2. GIT Applications and Data Utilized:**

The Division uses GIS for several applications. Its primary GIT platforms are ArcView, ArcInfo and AutoCAD. The Division is developing GIS-based layers for use in **state lands** management. These layers include parcel boundary maps, digitized orthophotography base maps, Natural Community maps, land cover type maps, land use classification maps, timber sale maps, resource analysis maps, historical and digitized photography, parcel administrative data, roads and trails data, wildlife data, cultural/historic data, and forest inventory data. Most of these data are put together in ArcView as a map with attached attribute tables. Many of the data layers are at varying stages of development and completion, depending on the schedule for Long Range Management Plan updates. The digital orthophotos used by the Division are from the Department of Taxes' Vermont Mapping Program (<http://www.state.vt.us/tax/Vermont%20Ortho%20Program.htm>), which is a statewide data set at the 1:5,000 scale.

Currently, GIS is being used to map **forest health** conditions on a statewide basis, in cooperation with the USFS. The Division creates Forest Health Survey Maps, which catalog insect and disease damage identified by an annual aerial survey. These maps are digitized representatives of aerial sketch maps created on topographic sheets. The Division's County Foresters uses GIS and digital orthophotography based parcel maps as a tool to assist **private** landowners as part of the Forest Stewardship Program. Forest management maps are created using property boundaries, roads data, topography data and forest stand information, which is then superimposed on the orthophotography base.

The Division has initiated a pilot project using GIS to map the properties that are enrolled in Vermont's Use Value Appraisal (UVA) program. UVA is a statewide, voluntary property tax abatement program for lands that remain in agricultural or forest use, rather than some developed use in the market place (<http://www.uvm.edu/~vhnet/prespl/planning/rur4.html>). The UVA program provides "current use" assessments which are based on the current productive use of the land rather than its fair market value. This methodology provides a more equitable property tax for enrolled parcels. The primary purpose of the

Division's project is to identify **private** forest parcels that are under management. At present, the project is limited to the White River Watershed and Washington County. Although other County Foresters have begun to use GIS to map additional properties, the primary effort is the pilot project. Digital data are being acquired for use of UVA on these private lands. The Division reviews, approves and monitors the forest management plans of parcels enrolled in the forest land portion of the program as a part of its **planning** efforts. One component of the management plan eligibility requirements is a parcel map keyed to the state orthophoto base map from the Vermont Mapping Program. It is from the parcel maps that the GIS composite maps are being made. These maps will be administered by County Foresters, and will show parcel boundaries as listed in the UVA program.

ANR is a partner with the University of Vermont and USFS in the Vermont Forest Ecosystem Monitoring Cooperative (VForEM). The VForEM website (<http://vmc.snr.uvm.edu/>) is maintained by the Division and is an **educational** resource that catalogs the results of many ongoing long-term ecosystem research projects in the Lye Brook and Mt. Mansfield areas. Data include GIS maps and technical reports from research projects.

### ***3. Statewide and Other GIT Linkages:***

The Vermont Center for Geographic Information, Inc. (VCGI) (<http://geo-vt.uvm.edu/efdev2/VCGI/vcgi.cfm>) is a non-profit corporation and instrument of the state. Though not an official part of state government, it serves as the official lead for GI/GIT in the state via legislative authorization. The lead GI/GIT group in Vermont is the VCGI Board of Directors, which is advised on technical issues by a Technical Advisory Committee (TAC). The Vermont Spatial Data Partnership (VSDP) is an additional group that seeks to bring GIS stakeholders together in order to increase networking and data sharing. The VSDP is a volunteer organization for which VCGI provides administrative and organizational support.

VCGI offers online data access, operating as a NSDI Clearinghouse node and providing free access to all VGIS data layers and metadata records that are FGDC compliant (<http://geo-vt.uvm.edu/>). VCGI also hosts several interactive map applications online. Forestry Division activities are coordinated with and through the ANR's IT office, which maintains a working relationship with VCGI, and enables the Division to have access to statewide information.