



1. Organizational Approach to GIT:

The Missouri Department of Conservation (MDC) (<http://www.conservation.state.mo.us/>) and its Forestry Division (<http://www.conservation.state.mo.us/forest/>) are both active users of GIT. The Division's application of GIT is moving towards an enterprise-wide approach, although some applications remain on an individual basis. The Department has a centralized GIS program located within the Administrative Services Division, and supported by MDC's GIS unit (mdcGIS). This unit provides Department-wide coordination, support for those divisions within MDC that do not have their own GIS staff, and interfaces with outside entities and other agencies. MDC employs nine full-time GIS professionals, and hires part-time technicians as specific projects require. The Forestry, Fisheries, Wildlife, and Natural History Divisions each have their own dedicated GIS staffs, who work with mdcGIS. The Forestry Division has two dedicated GIT staff persons. The first is the Division's GIS Specialist, who with assistance from a half-time GIS Technician, supports Forestry Division staff at MDC's Central Office and 65 field foresters located in 46 offices around the state. The second is the Division's GIS Analyst, who supports Forestry Division Research staff. The GIS Specialist fosters integration of GIT into activities on both state and private lands, and provides services and training to Division foresters. Use of GIT is a routine part of daily operations within the Forestry Division. Field staff, research staff and some Central Office staff regularly use GIS and related technologies. Furthermore, all Division foresters and Central Office staff have access to GIS on their PCs. Foresters also utilize GPS and field data recorders. There are no policies concerning GIT use within the Division to date. MDC, including the Forestry Division, is currently updating its software to ArcGIS. This transition is being phased in over the next two years as computer hardware upgrades and significant re-training allow.

2. GIT Applications and Data Utilized:

The Forestry Division manages approximately 650,000 forested acres of the nearly one million acres owned or leased by MDC. These lands are distributed around the state, with a concentration in the Ozarks. Forestry Division GIS staff maintain a statewide spatial database of **forest characterization** information, such as inventories, for these lands. Forestry personnel utilize ESRI's ArcView 3.2a, and field foresters produce shape files for the database, including: compartment and stand boundaries, roads, streams, parking lots, and other features of interest. The Forestry Division anticipates updating to ArcGIS 8.x in the future, pending system hardware upgrades. Professional GIS staff currently uses ArcGIS 8.1, ArcView 3.2a and Imagine 8.5 on NT workstations. With regards to remote sensing (RS), the lands managed by the Forestry Division are on a six year aerial photography schedule. Vendors provide black and white infrared photos in both paper print and digital versions (non-ortho) for use in ArcView. This data has been well received by field foresters and is used in conjunction with digital raster graphics (DRGs) scanned from U.S. Geological Survey (USGS) quad maps. Missouri's Natural Heritage database has recently become available in shape file format and is beginning to be used by field staff as they learn the intricacies of the data. The Forestry Division is also currently using LANDSAT data to assess **land cover** change. Furthermore, work is underway to develop a methodology using satellite data for **forest health** to detect stressed oak dominated forests, which are undergoing or will soon be experiencing heavy mortality due to oak decline syndrome. Foresters and their work teams also have ready access to Garmin GPS III+ units and Corvallis microtechnology (CMT) field data recorders from their offices. The management of MDC **Conservation** Areas (CA), which can be several thousands of acres and larger in size, can be quite complex and is guided by management plans produced by inter-divisional planning teams. Use of GIS projections during presentations by these teams has proven to be an excellent aid in the planning process and the subsequent production of maps for the project area.

The Forestry Division is also responsible for providing forest management assistance to **private** landowners in Missouri. Black and white digital orthophotos from 1995 and DRGs are widely used in the preparation of management plans for private landowners. As a participant in the U.S. Forest Service's (USFS) Northeastern Area State and Private Forestry Stewardship Impact Initiative pilot project, boundary and attribute data of stewardship plan tracts are being converted to digital form. In the future, data from private land tracts receiving significant attention from field foresters will be incorporated in a spatial database.

MDC uses mostly home-grown GIS data, but also has purchased enhanced TIGER road files from an external vendor. MDC has also acquired data from the Missouri Spatial Data Information Service (MSDIS) (<http://msdis.missouri.edu/>) at the University of Missouri - Columbia, and from the Missouri Resource Assessment Partnership (MoRAP) (<http://www.msc.nbs.gov/morap/>). MoRAP is a multi-agency (state and federal) consortium dedicated to the production and analysis of spatial data, and provides a facility and expertise for data production and analyses beyond the internal capabilities of any of its member agencies. MoRAP has produced a land cover layer for Missouri derived from LANDSAT imagery. This data is used frequently within MDC for such applications as classifying urban deer **habitat** and urban **watershed** land cover.

3. Statewide and Other GIT Linkages:

Missouri does not have a GI/GIT office or coordinator, but statewide GIT coordination activities are led by the Office of Information Technology (OIT) (<http://www.oit.state.mo.us>) and supported by the Missouri Spatial Data Information Service (MSDIS), mentioned above. OIT is responsible for all information policy and information technology (IT) in the state, and serves as the recognized entity within state government for GI/GIT. Missouri has one leading statewide GI/GIT coordination group, known as the Missouri GIS Advisory Committee (MGISAC), though it is supported by additional coordination and users groups in the state. The MGISAC operates under and reports to OIT. MGISAC's purpose is to foster cooperation among state agencies, local governments, private industry, educational institutions, and others regarding GI/GIT. The Division has no direct linkage to these groups, but associates with them indirectly through MDC's GIS unit, whose GIS Coordinator is a member and has served as appointed chair of the MGISAC for the past four years.

MSDIS serves as the official clearinghouse for GI in Missouri (<http://msdis.missouri.edu>). A CCAP grant was awarded for MSDIS to become an NSDI Clearinghouse node for Missouri. It currently distributes over 6,000 spatial data files plus over 5,000 tabular data sets with established links to these geographic files from its web site. The geospatial data is in ArcInfo export format. The tabular data is in Info or DBF file format. Access to these data is free. Use is being made of these data by the private sector as well as state, local, and federal interests.