



1. Organizational Approach to GIT:

The Utah Division of Forestry, Fire and State Lands (<http://www.nr.utah.gov/slf/slfhome.htm>) is located within the Department of Natural Resources (DNR) (<http://www.nr.utah.gov/>). Though the Division's name implies otherwise, other parts of state government are the leading land management organizations in the state and the Division provides forestry conservation and fire control activities on state and private lands, which represents about 30% of the state. In addition to headquarters staff, the Division has six area offices located throughout the state. The Division is an active user of GIS and GPS, but has not used remote sensing as much except for digital orthophotos and satellite data available from the Gap Analysis Program (GAP) as described below. GIT is generally used for individual applications and projects, rather than with an enterprise-wide approach. As problems or needs arise, GIT projects are requested by various programs in the Division. The Division's Planning and Technology Transfer Unit works with the program area to refine, develop and best implement each request.

There is no dedicated GIT staff within the Division, but the Planning and Technology Transfer Unit's Analyst/Planner spends about 70% of his time on GIT projects and is sometimes aided by other staff including a student intern. The Analyst/Planner also serves as the lead person monitoring legislative matters during the legislative session, which provides opportunities to apply GIT to assist in this role, but diminishes his availability to conduct other GIT work. The Analyst/Planner prioritizes projects, helps define projects as well as outcomes, and acquires help from others if any development or implementation issues arise. Three additional Division staff members work with GIT to varying degrees along with other job responsibilities, and there is some GPS capability in each of the six area offices. There is limited GIS use in these area offices but training and experience is expanding opportunities in GIT. The Division does not have a data development or management plan and there are no Division policies relating its use of GIT, but the State Foresters have traditionally expressed a commitment to the development and use of GIT and have relied on it for some decision making. The challenges the Division faces include the increasing demand for GIT products, availability of staff, sufficient time to develop final products, and training of personnel. If resources were available, efforts would be made to secure an additional staff member with geography and remote sensing expertise.

2. GIT Applications and Data Utilized:

The Division has primarily used GIS to assist in the Fire Suppression Program and state land management activities. It also has been used to support various programs, such as Forest Stewardship and Forest Legacy, Forest Health and Urban Forestry. Thus far, the primary use of GIT in the division is to support the wildland fire program, and demand is growing in this area. Fire wardens in the field use GPS to locate fires and the wardens are also locating interface zones with help from interns. Various products have been developed using GIS. For example, Fire Risk Assessments have been prepared since the late 1990s with GIS, and more recently for all of the state's counties using population, vegetation, and fire history data. Wildland fire risk in Wildland Urban Interface (WUI) areas was further refined using GPS to locate interface locations and to ground truth vegetation data. Pilot projects using GPS for roads, structures, and other important data (e.g. hazards, locked gates, water sources, access problems, etc) are being developed as dispatch tools in smaller geographic areas. Another example of fire GIS use was to show county participation in the state's Wildland Fire Insurance Fund compared to fire costs in these counties. This information was used to show the state legislature the need for and to help encourage counties to join the fund after the costly 2000 fire season.

GIT has also been used as a tool in the management of sovereign lands. GPS assists in defining landowner and leaseholder boundaries on state and private lands and stewardship tracts. A high priority

now is to determine where the state's sovereign lands are located and their boundaries, and GPS and GIS are important resources for this work. Additionally, the Forest Practices Act, enacted in 2000, will boost the demand for GPS and GIS analysis on private lands since Notice of Intent and other provisions of the act increases the need for prescriptions, harvest plans, and monitoring of the voluntary compliance to the Forest Water Quality Guidelines

Much of the Division's data is either developed in-house or provided by external sources such as the state's central GI/GIT organization, the Automated Geographic Reference Center (AGRC), as described below. Data responsibilities of various departments including DNR have been defined statewide to populate the State Geographic Information Database (SGID), though the Division has not been asked to provide internal data for multi agency use. Sources of data used by the Division are quite varied and depend upon the scale, scope, accuracy and timeliness of the projects. Digital orthophotos, available through AGRC, are a particularly important imagery source for many Division applications, both in planning and analysis phases, and in end-product evaluation. It is an important backdrop for vector data. Satellite imagery is used less frequently due to scale, cost and availability issues, but also because it can confuse understanding of conditions being displayed using vector data with GIS. Vegetative data is generally derived from remote sensing (RS) such as existing satellite imagery or digital orthophotos for planning and analysis purposes. The leading satellite imagery source of vegetation data, while dated, is the Gap Analysis Program (GAP). This work was done by Utah State University in cooperation with other state and federal agencies. The Division also generates data in-house, primarily through the use of GPS equipment. A number of other data sources are also used, including DNR, other SFOs, and other state or federal agencies, such as the U.S. Forest Service (USFS), and the Bureau of Land Management (BLM). ArcInfo™ and ArcView™ are used throughout the state in several organizations, including the Division and AGRC to facilitate data access and use.

3. Statewide and Other GIT Linkages:

The Automated Geographic Reference Center (AGRC) (<http://agrc.its.state.ut.us/>) is the state lead for GI/GIT, and is organizationally located in the Information Technology Services of the Department of Administrative Services (DAS). AGRC develops and manages the State Geographic Information Database (SGID) as a statewide data resource and clearinghouse for state, federal, and local government data about Utah. AGRC provides digital orthophotos online and links to digital raster graphics (DRGs) of 1:100,000 and 1:24,000 scale topographic images. Additionally, AGRC provides services, distributes funds to counties for GIS activities, and staffs the GIS Advisory Committee (GISAC), the Technical Interchange Group (TIG) and the Utah Geographic Information Council (UGIC). Utah also has regional coordinating groups in four eco-regions of the state that link back to the statewide groups and help to determine priorities and standards. GISAC is the primary coordinating group for GI/GIT in state government, and DNR is one of its most active members. GISAC's mission is to recommend GIS policy and standards, encourage use and education, and promote data collection and dissemination among all GIS users. The Technical Interchange Group (TIG) includes GIS users from various sectors, with focus on sharing technical aspects of GI/GIT. While the Division does not actively participate in these groups, it is represented by DNR on them and has provided input about data needs and priorities. DNR's GIS User's Group meets monthly for updates, changes, support, and to look for ways to consolidate and coordinate efforts within DNR. This is also the mechanism for the Division and other parts of DNR to express needs to be communicated statewide. The Division looks for opportunities to partner with others to help accomplish its work. Currently the Division has partnerships with AGRC for some coverages of conservation easements, and other DNR agencies for consolidation and coordination of data. USFS is a partner within the context of many forestry and fire issues, although the federal land base may or may not adjoin the Division's land.