Update: Minnesota Spring Aerial Imagery Program (SAIP)

July 25, 2014

Background

A project to gather statewide digital aerial imagery, in four bands (natural color – red, green, blue – and color infrared) at a level of detail never before achieved is currently underway. Led by the DNR, this effort will help meet requirements to update the National Wetland Inventory for Minnesota and must be collected in the spring, under leaf-off and snow-free conditions. MnDOT is providing technical assistance and MnGeo provides administrative and coordination services.

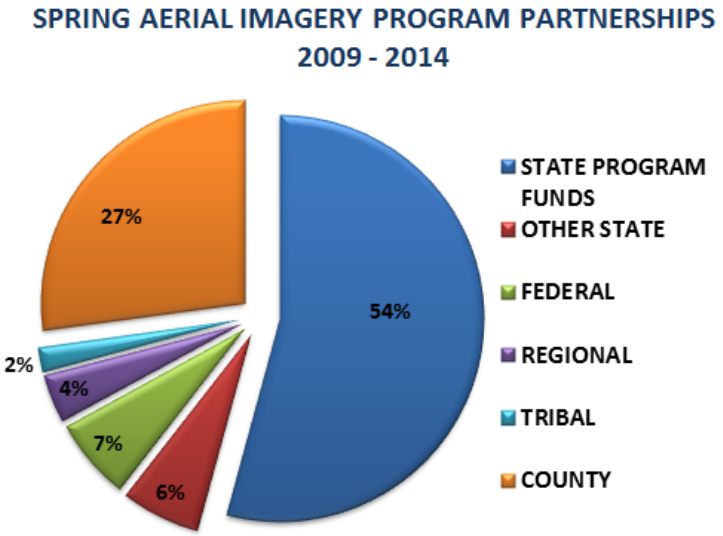

Figure 1. SAIP funding is provided by the ENRTF and through buy-up contributions from 22 collaborating organizations.

The State of Minnesota is providing funding through the Environmental and Natural Resources Trust Fund (ENRTF). County, local, tribal and federal governments are proactively encouraged to partner with the state in cases where collaboration can yield mutual benefit and cost savings (Fig. 1). The project is subdivided into four phases, based on geographic regions (Fig. 2). As the project enters its final year, data have been collected over 100% of the state, 84% of which is currently accessible through MnGeo's Geospatial Image Service. Full statewide coverage will become accessible early in 2015.

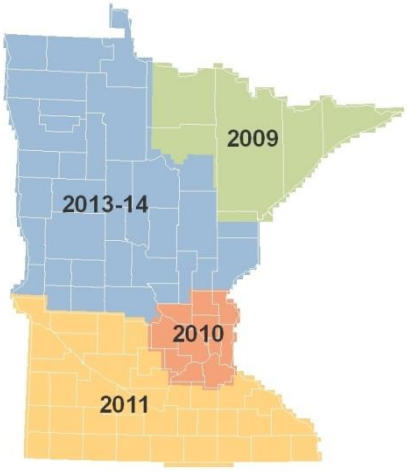

Figure 2. SAIP is a six year project to collect new orthoimagery over four regions of the state.

Program Status

To date, three phases of this four-part program have been completed: *The Arrowhead, Twin Cities Metro* and *Southern MN*. The fourth phase – *Central and Northwest MN* – began in spring 2013, and will be completed by the end of 2014. Twenty-two public organizations have collaborated on SAIP thus far, resulting in more than 40% of the cost of the project being financed through partnerships.

2009 Arrowhead Region Completed

Portions of six counties in Northeast Minnesota were completed in Spring 2009. The DNR managed all contract and QA/QC operations independently. Shortly after this phase of the project was completed, DNR engaged MnGeo to assist with administrative services over the next three phases.

2010 Metro Region Completed

Data covering 13 East-Central Minnesota counties, provided in at least one of three different resolutions, over two flying seasons, made up this phase of the program. Nine public organizations partnered to complete this $372,000 project – two state agencies, two federal agencies, two regional organizations and three counties.

Positional accuracy was particularly important to project partners, who required rigorous specifications – ones that meet ASPRS Class I standards. Accuracy tests conducted by MnDOT indicate that imagery quality exceeds all accuracy thresholds specified.

2011 Southern MN Region Completed

SAIP imagery for 34 of the 35-county region making up Phase 3 of this program were completed on time. Due to unsuitable weather conditions during Spring 2012, data collection for the remaining county in this region – Meeker – was postponed until 2013. Meeker County is now complete.

2013-14 Central and Northwest MN Data Acquisition in Progress

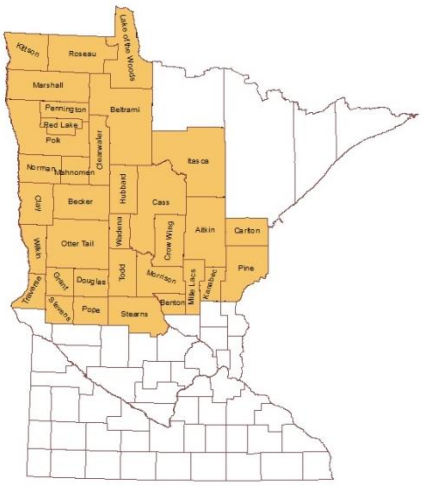

Figure 3. The 4th phase of SAIP includes 34 counties in Central and Northwest Minnesota.

SAIP imagery for the remaining 34 counties of the state is being flown and processed over two seasons: 2013 and 2014 (Fig. 3). Due to late spring weather in 2013, imagery acquisition was intermittent at the ½-meter resolution. But, all eight higher resolution buy-up areas were successfully acquired. Partnerships last year included: Carlton, Clay, Itasca, Mille Lacs and Wilkin counties, White Earth and Fond du Lac Reservations and Camp Ripley. Imagery at both resolutions is now available (Fig. 4).

In 2014, the remaining Central and NW Region was flown including two buy-up areas: Beltrami and Polk counties. An additional buy-up outside of the region, McLeod County, was also flown.

For more information visit the SAIP website:
www.mngeo.state.mn.us/chouse/airphoto/spring2009-2015.html

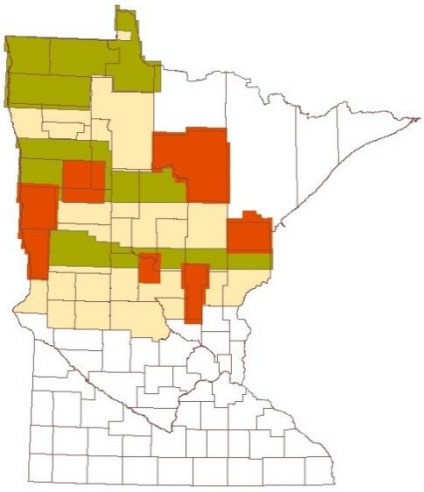

Figure 4. In 2013, one-half-meter (50-cm) imagery was acquired for the areas in green. One-foot (30-cm) imagery was collected for the areas in red. Areas in tan were acquired in 2014 and are currently being processed.

Figure 5. An example of one-foot resolution color infrared imagery from Clay County, showing the confluence of the Red and Buffalo Rivers near Georgetown, MN.