2023 Interim Budget Committee

Montana State Library

September 2022 Updates

Montana Real Time Network

The Montana State Reference Network (MTSRN) pilot continues to make progress toward a sustainable Real Time Network (RTN) in Montana. The network now has 55 operational base stations with 50% state coverage. Base station sensor status can be reviewed online via the MTSRN Sensor Map.

House Bill 50

GIS Data Readiness

A contract was signed with 1Spatial in February for a cloud-based GIS data assessment system. The GIS data assessment service will check the readiness of the following datasets:

- Public Safety Answering Point (PSAP) Boundaries,
- Emergency Service Boundaries (Law, Fire, EMS),
- Road Centerlines, and
- Site/Structure Address Points.

MSL staff are currently implementing and configuring the data assessment system and will report metrics as PSAPs are onboarded in Q2 of FY 23.

Outreach, Coordination, Support

MSL staff presented on MSL support for Next Generation (NG) 9-1-1 GIS at two meetings this summer, the Montana Sheriffs and Peace Officers Association 2022 Annual Meeting (June 24) and the Montana Association of Geographic Information Professionals, Local Government Special Interest Group meeting (August 18).

Over the last quarter, the 9-1-1 GIS Analyst spent over 100 hours directly supporting PSAPs and local government 9-1-1 GIS data providers. Work featured the development of GIS data management tools and workflows, including:

- ETL workflows to transform local data to NENA NG9-1-1 GIS Data Model Standard,

- Road centerline editing tools to check address ranges and streamline editing, and
- Assistance with data GIS data maintenance workflows in Cascade County, City of Bozeman, City of Great Falls, Gallatin County, Lewis and Clark County, Powder River County, and Teton County.

The State Library conducted additional consultations with Glacier County and Powder River County.

House Bill 49

Lidar (Light Detection and Ranging)

Lidar acquisitions are underway for the MSL-coordinated USGS 3DEP Broad Area Announcement project (Montana BAA project). The project is federally funded as follows:

Funding Partner	Amount
Natural Resources Conservation Service (NRCS) - MT office	$1M
Bureau of Land Management (BLM) - Dillon field office	$100K
US Forest Service (USFS) - Region 1 and Lolo Forest	$60K
US Fish and Wildlife Service (FWS)	$20K
USGS 3D Elevation Program (3DEP)	$3.2M (estimate depending on final vendor cost)
Total Project Estimated Cost	**$4.4M**

Other non-funding partners in the project include Montana Department of Natural Resources and Conservation (DNRC), MSL, Yellowstone County, City of Billings, Lewis & Clark County/City of Helena, and Montana Bureau of Mines and Geology (MBMG).

Another federal partnership formed between FWS and 3DEP to add Petroleum, Garfield, and Prairie counties. This work was added to the Montana project for an estimated $1.5M, bringing the total FY 2023 lidar acquisition cost to approximately $6M.

According to the August 26, 2022 report, the lidar vendor Axis Geospatial collected 25% of the flight lines for the quality level 1 lidar area and 76% of the flight lines for the quality level 2 lidar area.

Quality Level 1	Total # Lines	# Lines Flown	# Lines Remaining	% Lines Collected	Total SQ Mi
Billings, MT QL1	44	44	0	100%	190.8
Western QL1	135	0	135	0%	243.2
Total	**179**	**44**	**135**	**24.6%**	**434.0**

Quality Level 2	Total # Lines	# Lines Flown	# Lines Remaining	% Lines Collected	Total SQ Mi
Billings, MT QL2	167	167	0	100%	3,600.6
Jordan, MT QL2	482	360	122	75%	12,719.7
Western QL2	552	391	161	71%	15,367.0
Total	**1,201**	**918**	**283**	**76.4%**	**31,687.3**

The State Library released lidar-derived Relative Elevation Models (REM) that explore Montana's rivers. Users can view sections from ten rivers and streams, and several more rivers are in progress.

Since June 1, MSL received 98 lidar data-use surveys. Most patrons found what they needed online without staff intervention. However, MSL staff filled 36 data requests. All business sectors used lidar data, as follows: 42% private consulting, 22% state government, 15% federal government, 13% public, 6% nonprofit, and 2% local government. Top use categories included terrain modeling/ground survey, natural resources/conservation planning, and transportation/infrastructure.

In response to the spring flooding, staff filled ten requests (emails and calls) for before-flood lidar in and around Livingston, Fromberg, and Red Lodge. Patrons also expressed a need for post-flood lidar to model the extent of flooding based on high water marks, to assess damage, and to update flood-risk mapping.

Geo-Enabled Elections

MSL partnered with the Montana Secretary of State (SOS) and local governments to collect information essential to geo-enabling elections across the state. MSL integrated MSDI Addresses & Administrative Boundaries Data into the MTVotes elections software. SOS

tested the system with the data, and MSL is working with local election administrators to educate them on data workflows.

As of September 1, voting precinct-split boundary data has been collected and sent to the Secretary of State from 52 out of 56 counties. 45 counties have 100% district collection. 77.9% of the precincts (2,289 out of 2,951) have been collected.

Cadastral

The Montana Spatial Data Infrastructure (MSDI) Cadastral Working Group convened August 17 to develop an assessment plan to analyze the current state of cadastral across Montana. The group will continue its work October 19.

The Cadastral parcel database stores information about public and private land ownership in Montana. Cadastral data are provided monthly for each Montana county in the file geodatabase (version 10) and shapefile data formats, and MSDI Cadastral publishes a map of county updates on the MSL website.

MLIA Grant Program

FY 23 MLIA Grant projects will help support Montana Land Information Plan priorities, including:

1. Development of GIS information to support Next Generation (NG) 9-1-1,
2. Improvement to Cadastral and Administrative Boundaries Themes, and
3. Incorporation of GIS into planning and preparation for geo-enabled elections.

Outreach, Coordination, Support

Montana State Library led multiple outreach and coordination efforts over the last quarter:

- The Elevation MSDI Work Group met June 28 to prioritize areas for 2023 lidar collection and identify potential partners and funding opportunities.
- Twenty people attended a three-hour training on MLIA Grant Management on July 28. In a post-attendance survey, 100% of respondents felt that the training related to their job and agreed or strongly agreed that that they learned something by participating in the activity.
- Staff performed outreach at the Montana Association of Clerk and Recorders (MACR) Annual Conference, August 9-13 in Choteau, MT to help prepare counties for upcoming integration of GIS into the elections system.

- The Cadastral MSDI Work Group met August 17 to discuss Cadastral Theme updates, a proposed workflow for evaluating areas with parcel/Public Land Survey System (PLSS) alignment issues, and tax year breakdowns.
- Thirty-three people registered for a training webinar on MSL's new 2022 Floods GIS Data Hub. Using the GIS data hub, citizens can find, explore, and contribute data relevant to the Montana floods. Featured content includes imagery of flood affected areas, an interactive flood data viewer, and Montana Spatial Data Infrastructure and other GIS data clipped and zipped for the approximate flood disaster area of interest along the Yellowstone River and tributaries.
- Staff visited Big Horn County on August 3 regarding MSDI data collection efforts to support geo-enabling Montana elections.