MnGeo Update and Discussion…

SE Minnesota GIS Users Group

February 14, 2013

Minnesota Geospatial Information Office

MNIT SERVICES

Legislative Mandate

Provide coordination, **leadership**, and consultation to integrate government IT and GIS infrastructure.

Avoid or **eliminate unnecessary duplication** of geospatial technology, data, services and systems.

Promote and coordinate consolidated geospatial technology, data, and services and shared geospatial Web services for state and local governments.

Promote and coordinate geospatial technology training, guidance, and support for state and local governments.

Legislative Mandate

Coordinate and guide the use of available federal, state, local, and public-private resources to develop statewide geospatial information technology, data, and services.

Lead and ensure cooperation and coordination for all GIS functions in state and local government:

Review state GIS technology, data, and services involving state or intergovernmental funding.

Inform the legislature regarding projects reviewed, and recommend projects for the governor's budget.

Coordinate management of geospatial technology, data, and services between state and local governments

Stakeholders and Partners

Minnesota Geospatial Information Office

MNIT SERVICES

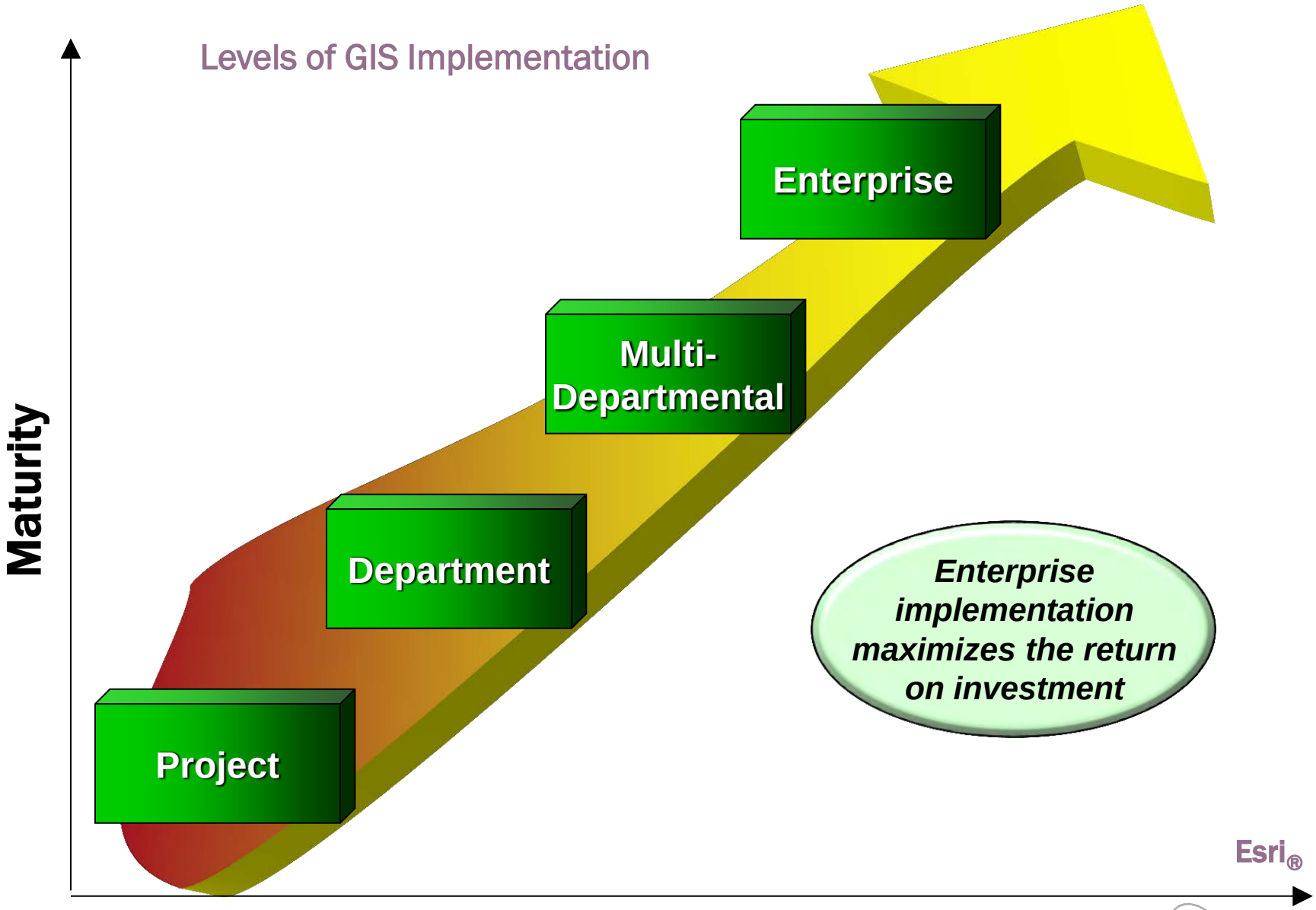
MnGeo Governance

Two Advisory Councils provide policy advice to MnGeo and address geospatial issues

State Government Geospatial Advisory Council
focuses on **state agency** issues – 15 Members

Statewide Geospatial Advisory Council
addresses issues of concern to the **wider GIS community** - **23** Members

We Are In Transition!



Minnesota Geospatial Information Office

MNIT SERVICES

MnGeo is part of a much larger IT consolidation…

- ***Make the IT infrastructure super-efficient so we can focus our people, money and creativity on the services that most directly make a difference for our customers and citizens.***
- This requires us to:
  - Minimize redundancies
  - Consolidate what makes sense
  - Simplify the environment through common tools and processes
  - Leverage savings to invest in training and new technologies
  - Invest in innovation
  - Maximize workforce, build careers

Part of a Tactical Plan

- The purpose of this two-year tactical plan for MN.IT Services:
  - **Create a roadmap** of priorities, goals and expectations for our agency over the next two years.
  - **Set explicit milestones** for the next 14 months.
  - **Used by all divisions and agency-based offices** to set priorities and action plans.

Does not imply that at the end of two years we will be as efficient as we know we can be – many of these objectives will require us to carry on beyond the length of this plan.

Functional Alignment, IT Leadership and Oversight

- Implement organizational consistency
- Standardize agency policies and management practices
- Develop functional alignment between MN.IT central and agency-based offices in order to better define roles, skills and expectations and to foster collaboration and interoperability."
- Overarching goal of the mn.IT cloud service strategies is to align service delivery functions across the enterprise

The Geospatial Aspect

- We will improve service level management for geospatial services and align agency geospatial resources appropriately within MN.IT, with the following objectives:
  - Standard geospatial services are integrated in the MN.IT Service Catalog.
  - Enterprise geospatial needs are identified and prioritized.
  - MN.IT is supported by a single set of geospatial policies and standards.
  - Geospatial services leverage common infrastructure, application and data management processes and tools.

Where are we at with Geospatial Optimization?

- Small teams working together to take a first cut
- Two primary efforts at this time:
  1. Identify Infrastructure and Data optimization opportunities
     - MN Geospatial Commons
  2. Create a Service Catalog
- Create SharePoint Sites
- Hire a Project Manager
- And…more to come

CKAN Example: OpenColorado.org

Minnesota Geospatial Information Office

MNIT SERVICES

Next steps...

Decision - One project or many?

- The approach:
  - We will **align other with projects** where we can (e.g. MN Geospatial Commons with Infrastructure, hosting and data management)
  - We will need to **identify resources** to work on these
  - We will need to **balance with the business need**
  - Need to be complete in **two** years

    This will likely limit our ability to engage in some new efforts!
  - Meeting with larger agencies first

How does this impact you?

- Agency data and info moves toward a **single storefront**
  - Publish in a single place –
  - Pursue single requests of data from partners

- Move toward a more **collaborative environment**
  - SharePoint
  - MN Geospatial Commons
  - ArcGIS Online
  - More collaborative projects –

    NE MN, Parcels,

    Street Centerlines, Orthoimagery…

- More of a **focus on stakeholder priorities**

Minnesota Geospatial Information Office

MNIT SERVICES

How do you think this will impact you?

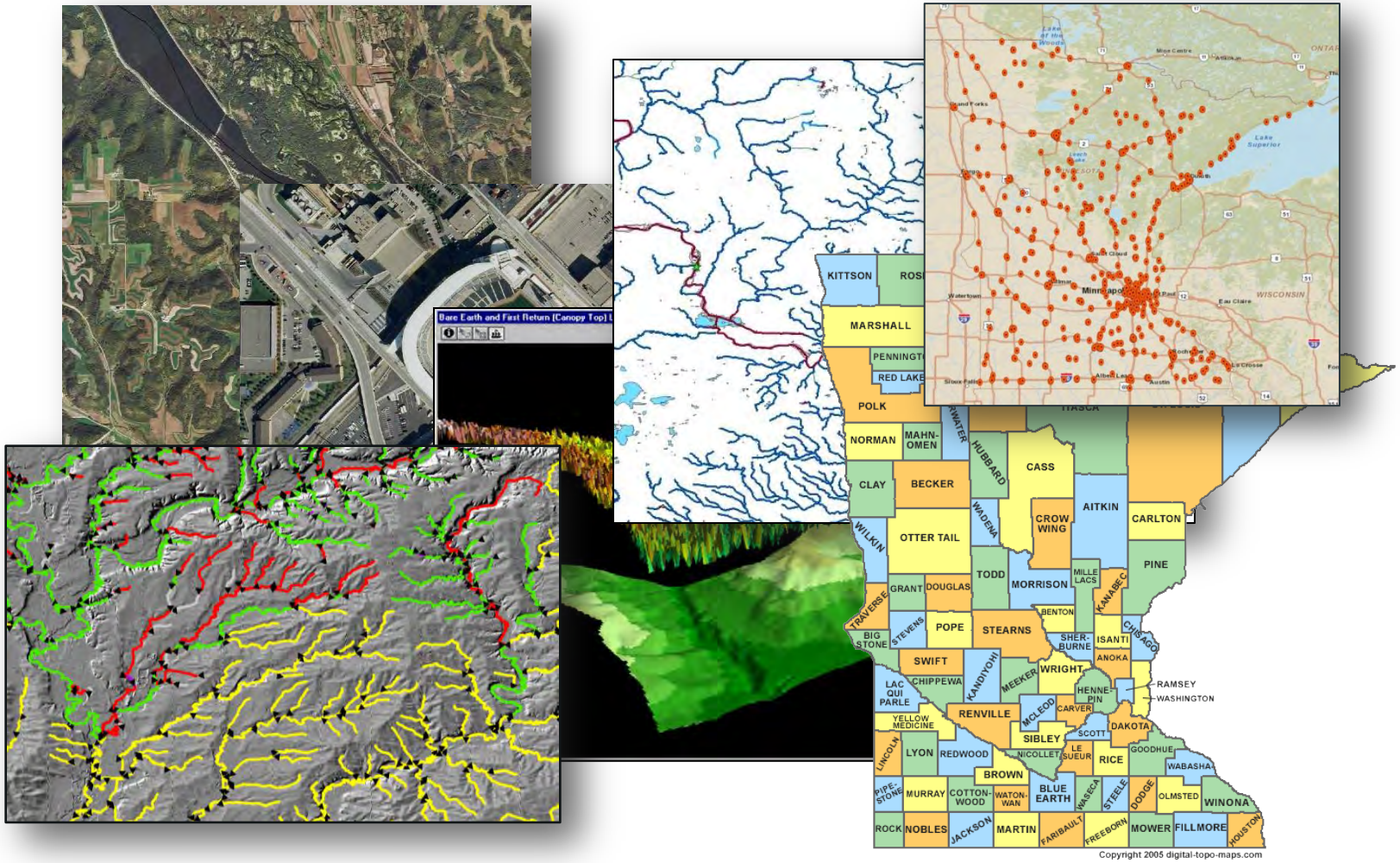
Questions and discussion…

From the stakeholders - What should we think about as we optimize?

Minnesota Geospatial Information Office

MNIT SERVICES

Update - Current MnGeo Activities



Minnesota Geospatial Information Office

MNIT SERVICES

Legislative Session

- 2013 Legislative Session
  - MnGeo Legislation (Housekeeping, eliminate State Government Council, data sharing)
  - Discussion: How do we get detailed input about adverse impacts of data sharing?
- Other legislation that members are aware of affecting our community?

Legislation

Agreed to on the House floor

Subd. 11. **Government sharing of electronic geospatial data.** (a) The definitions in section 13.02 apply to this subdivision.

(b) Electronic geospatial government data must be shared at no cost with government entities, the notification center established under section 216D.03, and federal and tribal government agencies. Data received under this subdivision may be reproduced or shared with other government entities or agencies. A release of data under this subdivision must include metadata or other documentation that identifies the original authoritative data source. Government entities providing data under this subdivision are not required to provide data in an alternate format specified by the requestor. A government entity is not required to provide the same data to the same requestor more than four times per year, unless required by law or court order. Government entities and agencies sharing and receiving electronic geospatial data under this subdivision are immune from civil liability arising out of the use of the shared electronic geospatial data. This subdivision does not 8authorize the release of data that are not public data.

Proposed amendment for the Senate floor

Subd. 11. Government sharing of electronic geospatial data. (a) The definitions in section 13.02 apply to this subdivision.

(b) Electronic geospatial government data must be shared at no cost with government entities, the notification center established under section 216D.03, and federal and tribal government agencies. Data received under this subdivision may be reproduced or shared with other government entities or agencies. A release of data under this subdivision must include metadata or other documentation that identifies the original authoritative data source and specifies any redistribution restrictions. Nongovernmental requestors shall be directed to the original authoritative source for data received pursuant to this subdivision. Government entities providing data under this subdivision are not required to provide data in an alternate format specified by the requestor. A government entity is not required to provide the same data to the same requestor more than four times per year, unless required by law or court order. Government entities and agencies sharing and receiving electronic geospatial data under this subdivision are immune from civil liability arising out of ~~the~~ any use of the shared electronic geospatial data by government entities and non-government entities, including specifically the public. This subdivision does not authorize the release of data that are not public ~~data~~ or any data purchased from a vendor that is classified as trade secret or copyrighted as part of a written licensed agreement.

Minnesota Geospatial Information Office

MNIT SERVICES

Data Sharing Agreement

- Goes along with the legislation
- Will likely be different if legislation passes
- Click through?
- Goal - Single agreement with each County for specified data
- County Attorney's Association
- Workgroup?

Negotiate & Administer ELA & MPA
Coordinate 17 Agencies Funding & Use

- Administration
- Agriculture
- BOWSR
- Commerce
- Corrections
- DEED
- DNR
- Education
- Health
- Housing Finance
- Human Services
- IRRRB
- Met Council
- MnDOT
- OET (MnGeo)
- PCA
- Public Safety

Esri Master Purchase Agreement and Managed Services – Discussion

What is it?

- Master Purchase Agreement –
  - Products not covered by ELA
  - Regional and local, government – discounts for software and PT
- Managed Services

Who wants/needs it?

How do we approach it?

Cloud services security concerns?

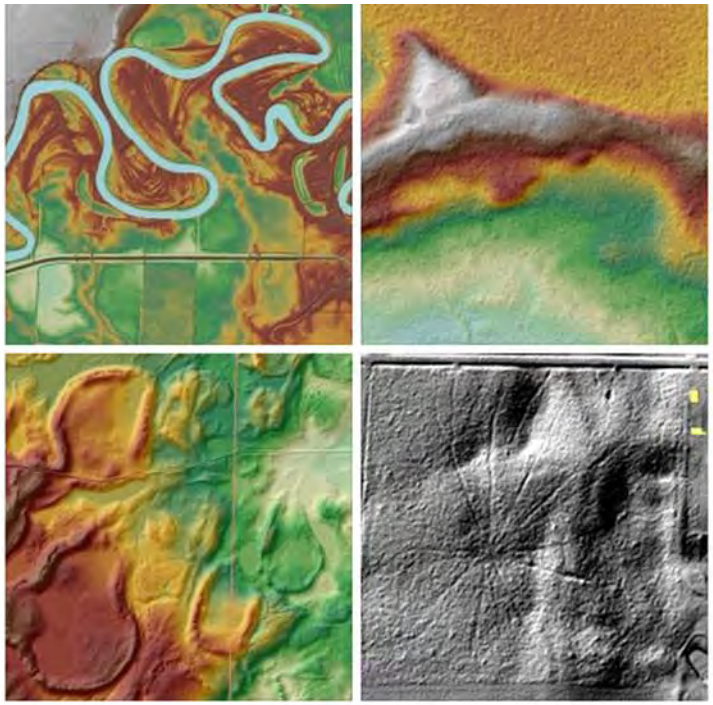
Next up WSCA Participation Agreement

Focusing on Stakeholder Identified Priorities

1. LiDAR/Elevation Data Delivery (already underway)
2. Minnesota Geospatial Commons
3. Sustainable Program for Orthophotos
4. Statewide Parcel Integration
5. Street Centerlines (already underway)
6. Statewide Addresses (may be tied to Centerlines)
7. Statewide Hydrography

We need to figure out how to resource these efforts! And how will they be limited by optimization.

Minnesota Elevation Mapping Project

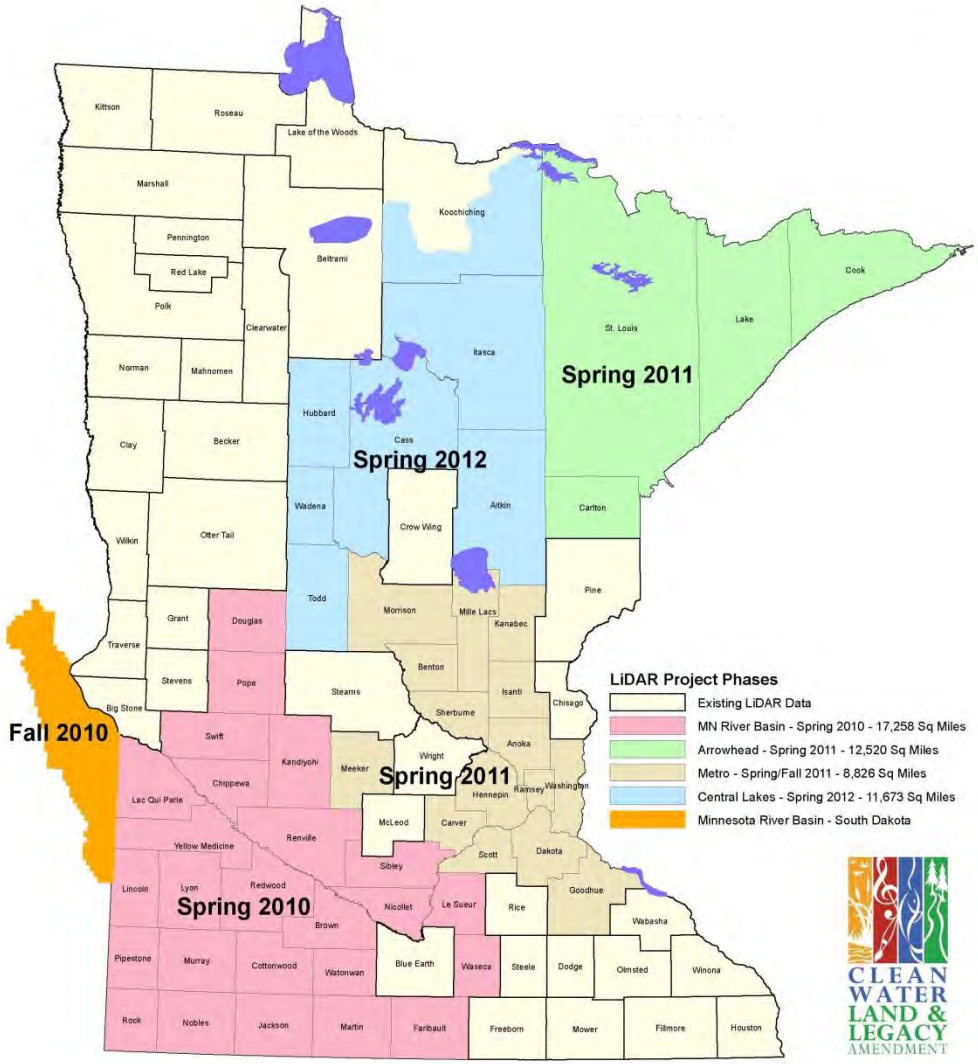


- Project Goal: develop a seamless, high-accuracy digital elevation map of the State using LiDAR technology
- Facilitate the flow of these data between all levels of government
- July 2009: Legislature appropriated $8.3-million from Clean Water Fund to collected data between 2010-2013
- Project coordinated by DNR and MnGeo Digital Elevation Comittee

Minnesota Geospatial Information Office

MNIT SERVICES

Statewide LiDAR



Adheres to USGS Base Specs:

- Mean Post Spacing = 1.5 meters
- <=15 centimeter RMSEz, 2-foot vertical accuracy (95% confidence)
- 1 meter horizontal accuracy
- Tiling scheme is 1:24,000 quarter-quarter quads

Products:

- Classified LAS format files: Bare Earth, Vegetation, Buildings, Water
- Edge-of-water breaklines
- 1 & 3-meter DEM
- 1 & 3-meter raster hillshade
- 2-foot contours
- Building footprint polygons
- Viewer and download tools and FTP site

For more information contact:
Tim Loesch
Project Coordinator
Minnesota DNR
tim.loesch@state.mn.us

This project is funded by:
Minnesota Clean Water Legacy Amendment
United States Geological Survey (South Dakota)

This schedule was approved by the State Digital Elevation Committee on 8/31/2010.
The schedule may be rearranged based on available funding or weather conditions.

MNIT SERVICES

MN Geospatial Commons

- A single place we all go to find and share geospatial resources

- Where are we?
  - Hiring a Project Mngr.
  - Align with infra and data
  - Nailing down the scope
  - Evaluate tools
    - CKAN, Geonode, Esri Portal

Find

Evaluate

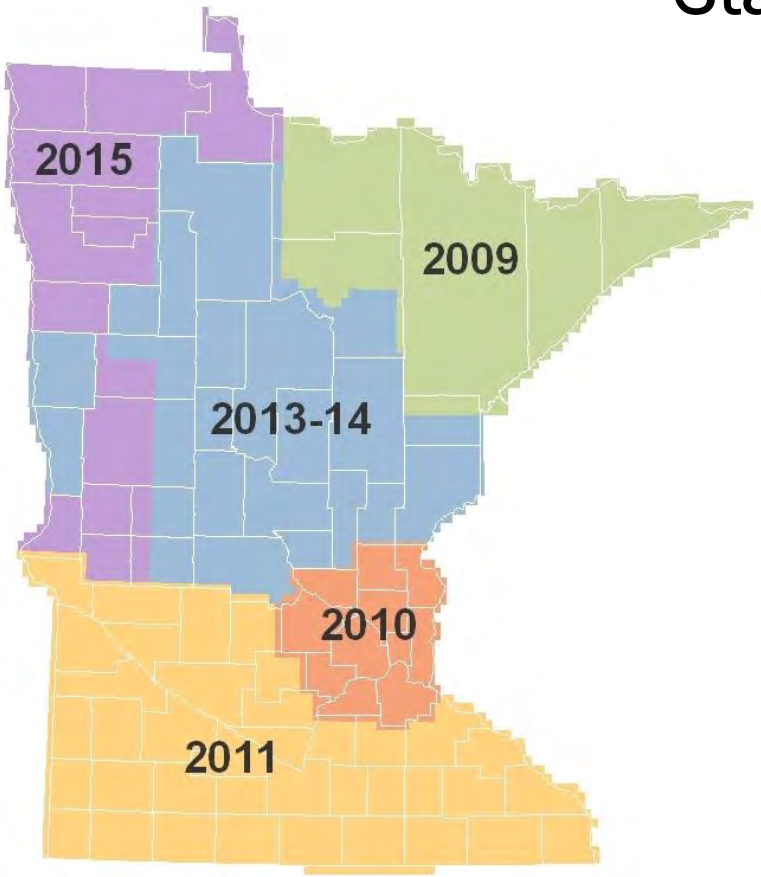
Share

Administer

Minnesota Geospatial Information Office

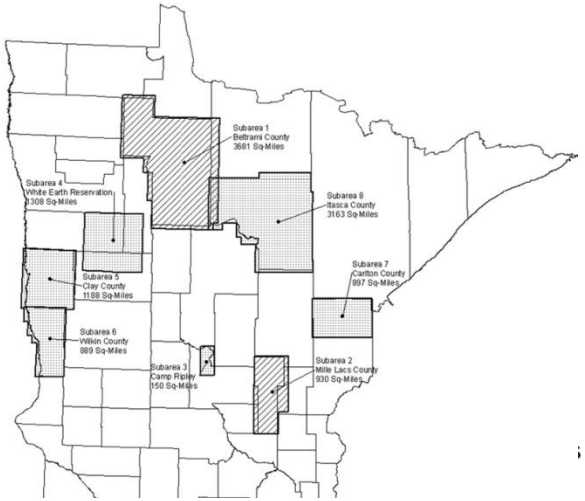
MNIT SERVICES

Statewide Aerial Imagery Program



Phase 4 Currently Underway

- Eight well-qualified vendor proposals evaluated late January
- Currently under negotiations with highest-scoring vendor
- Anticipate signed contract later this month
- Eight partners intending to cost-share

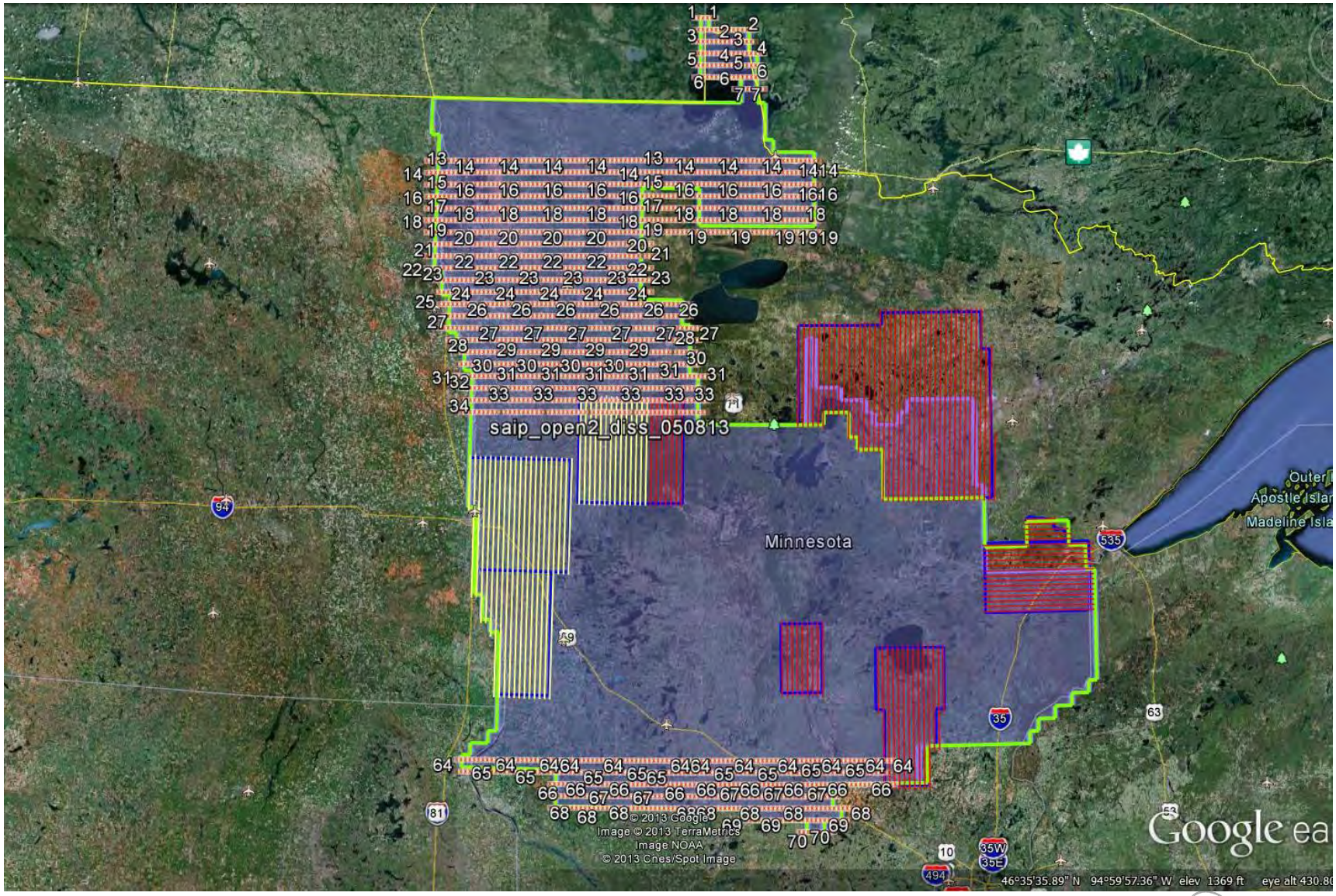


Investments: Phases 1 through 4

State Program Funds: $1,200,000
Partnership Funds: $ 835,000

Minnesota Geospatial Information Office

Statewide Aerial Imagery Program – Spring/Summer 2013



MNIT SERVICES

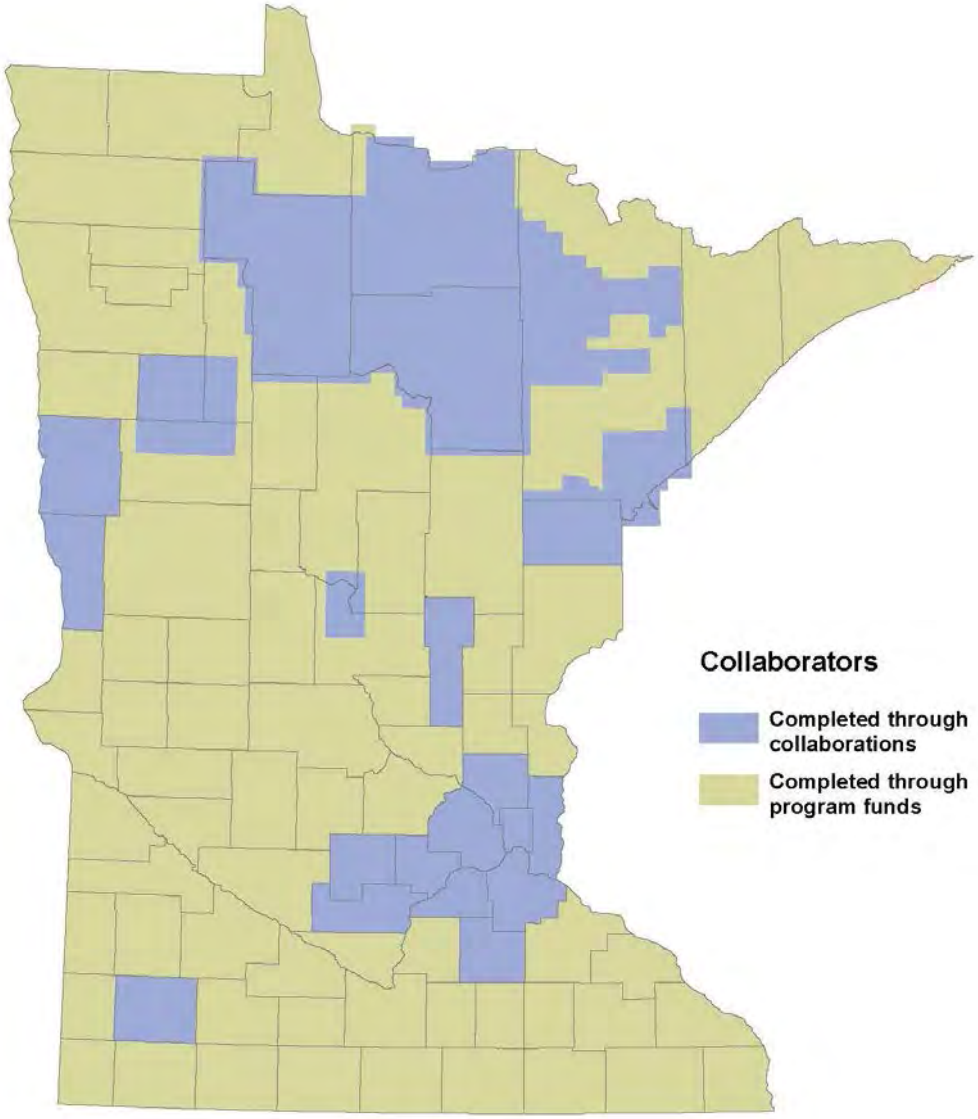
Overview

- Statewide project to collect leaf-off color imagery over 5 years
- Spurred on by DNR efforts to update wetlands mapping
- 0.5-meter (20-inch) nominal GSD
- Offer local partnership options to buy-up at improved 1-foot GSD

Minnesota Geospatial Information Office

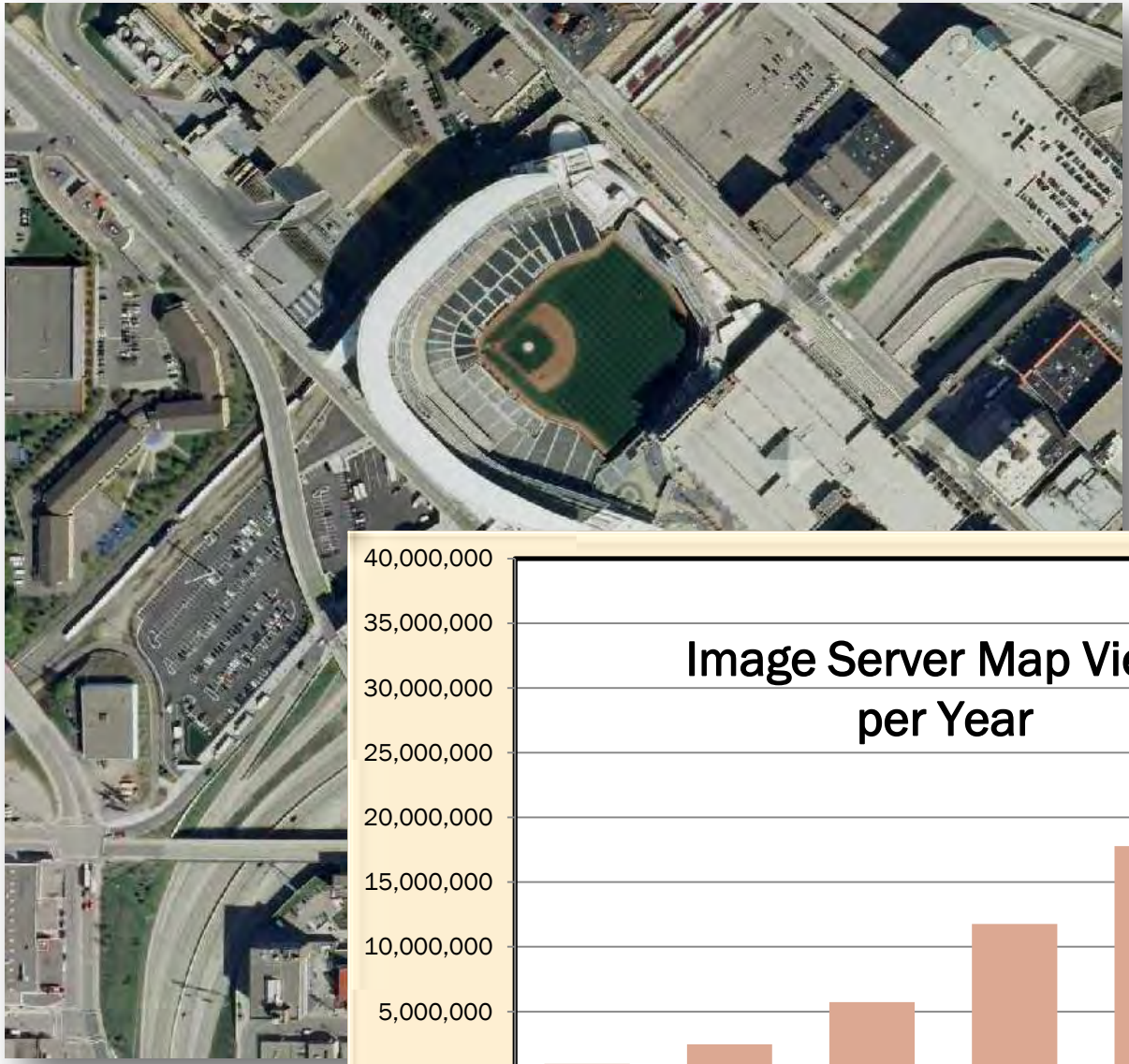
MNIT SERVICES

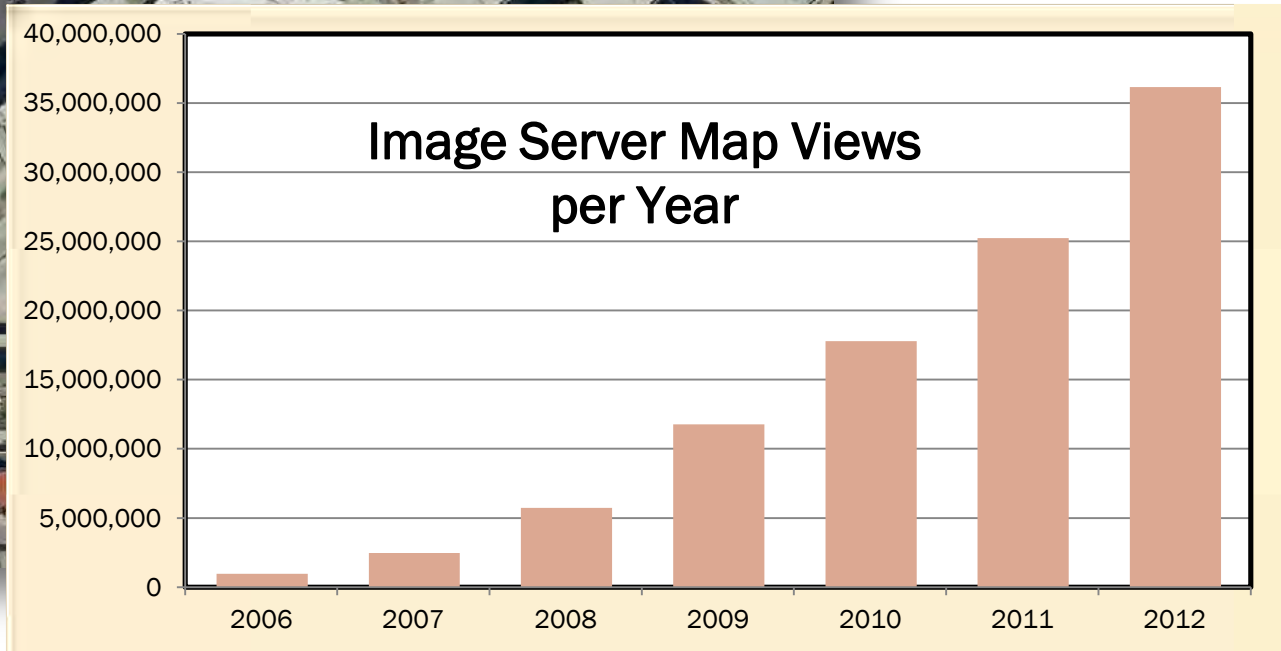
SAIP Investments



- **21 partnerships:**
  - Federal (2)
  - State (1)
  - Counties (13)
  - Native American Lands (2)
  - Regional (2)
  - National Guard (1)
- **Program Funds: $1,250,000**
- **Partner buy-ups: $650,000**

MNIT SERVICES





Minnesota Geospatial Information Office

MNIT SERVICES

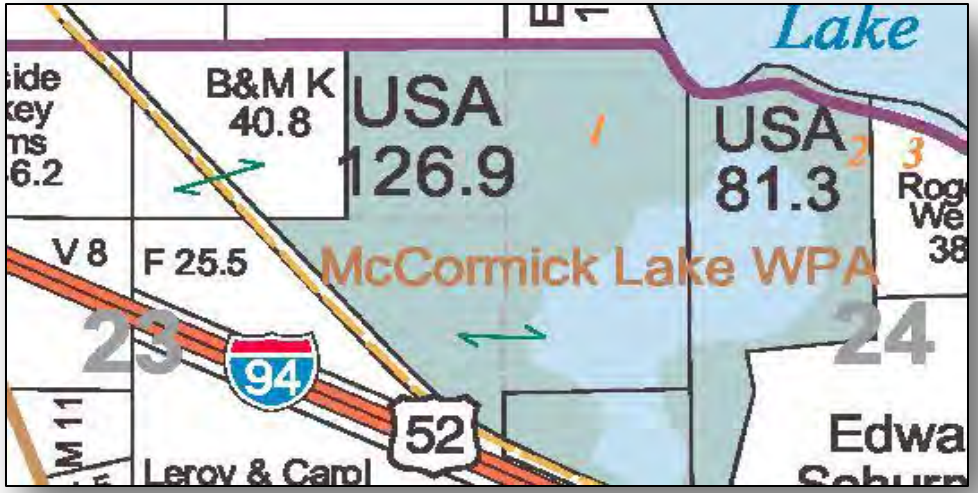
STATEWIDE PARCEL INTEGRATION PROJECT
Business Plan Development

Collaborative Effort

- Multiple Funding Sources

Building on Strategic Plan

- Create Statewide Data Layer



Minnesota Geospatial Information Office

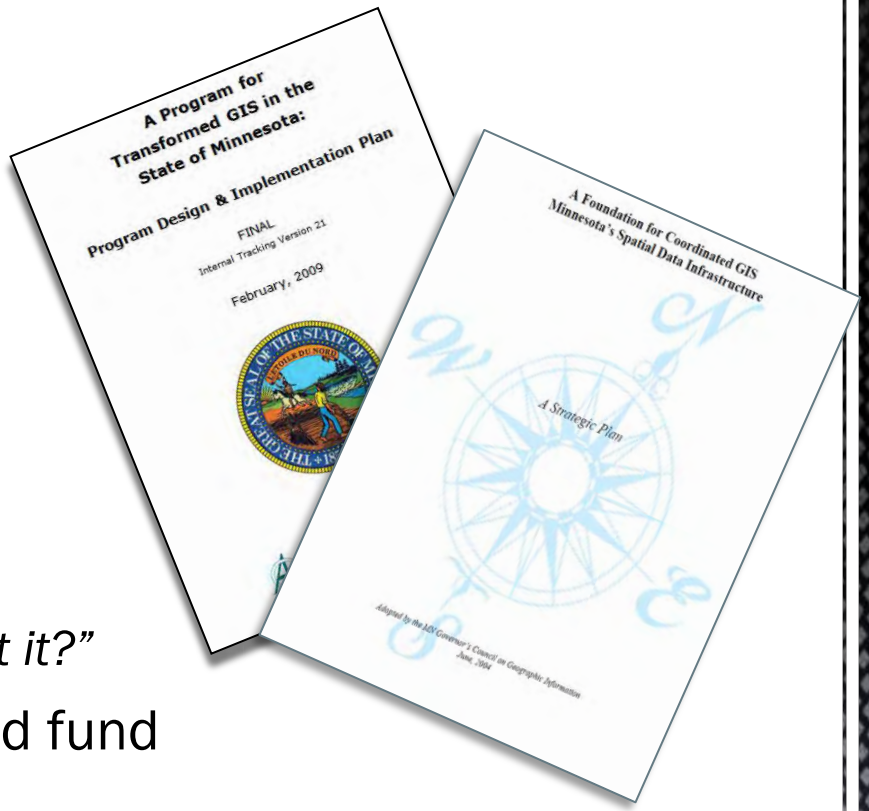
MNIT SERVICES

What is a Business Plan?

- **<u>One</u> Strategic Plan**, potentially **<u>many</u> Business Plans**

- **Strategic Plan**
  - What & Why
  - Vision & Goals
  - "Big Picture" & overall context

- **Business Plan**
  - <u>How, When</u>, and <u>How Much</u>
    - *"What are you going to do about it?"*
  - Aimed at those that approve and fund
  - Details of initiative(s) emerge
  - Presented as a business case



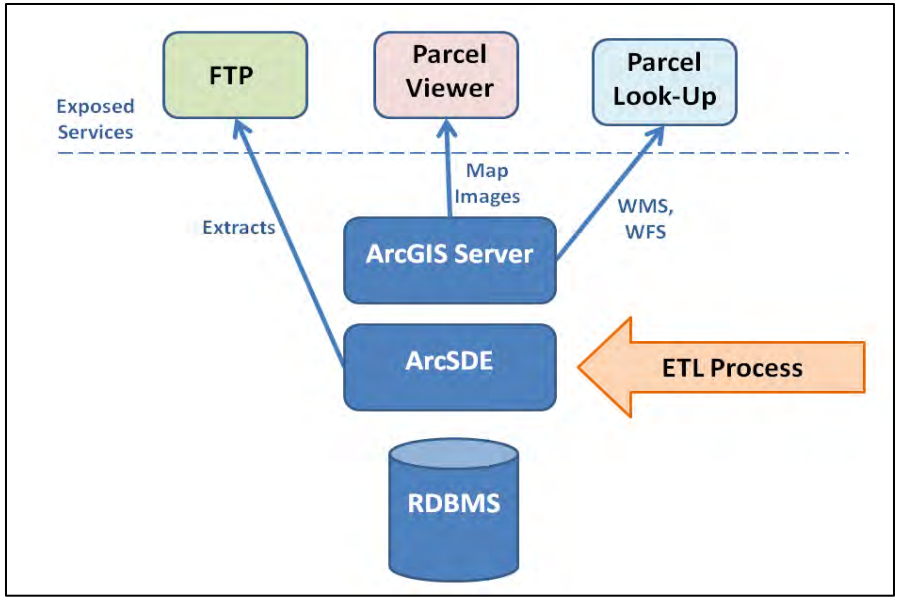
Minnesota Geospatial Information Office

MNIT SERVICES

Implementation

Collect, Aggregate, Harmonize Data

- Evaluate existing efforts
- Evaluate providing support
- Identify required state staff
- Create repeatable process
- Collect data



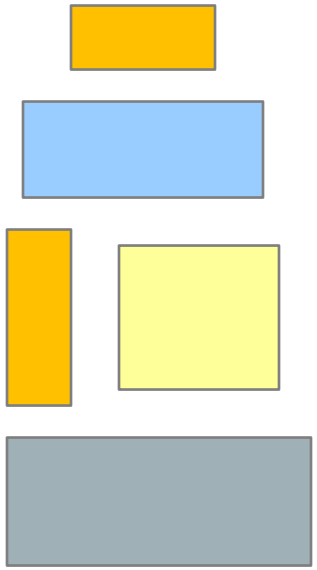
Central Repository

- Data access and distribution

Viewers, FTP/Download

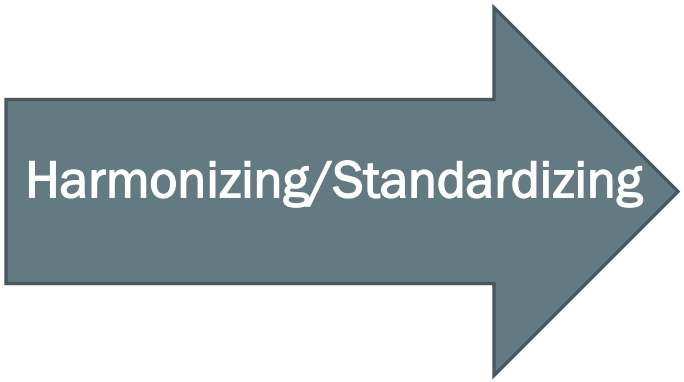
Parcel Data Integration: What is it?

County Parcel Data



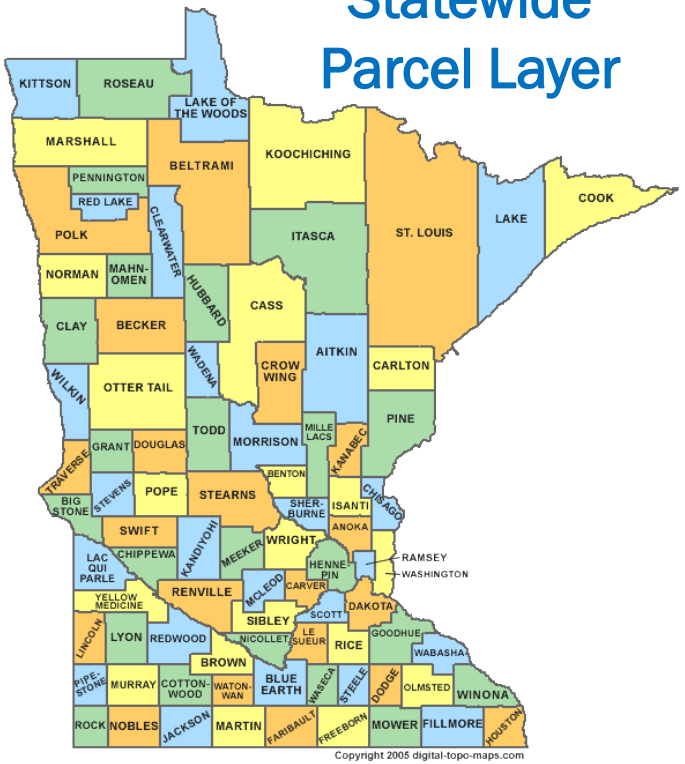
- Data sharing barriers?
- Policy barriers?
- No data?
- Incentives?

Data Processing



- How will it be collected?
- Who harmonizes it?
- To what specifications?
- Content requirements?
- Accuracy requirements?

Statewide Parcel Layer



- Who has access?
- How distributed?
- How often updated/maintained?

Minnesota Geospatial Information Office

MNIT SERVICES

So where are we at with the Parcel Project?

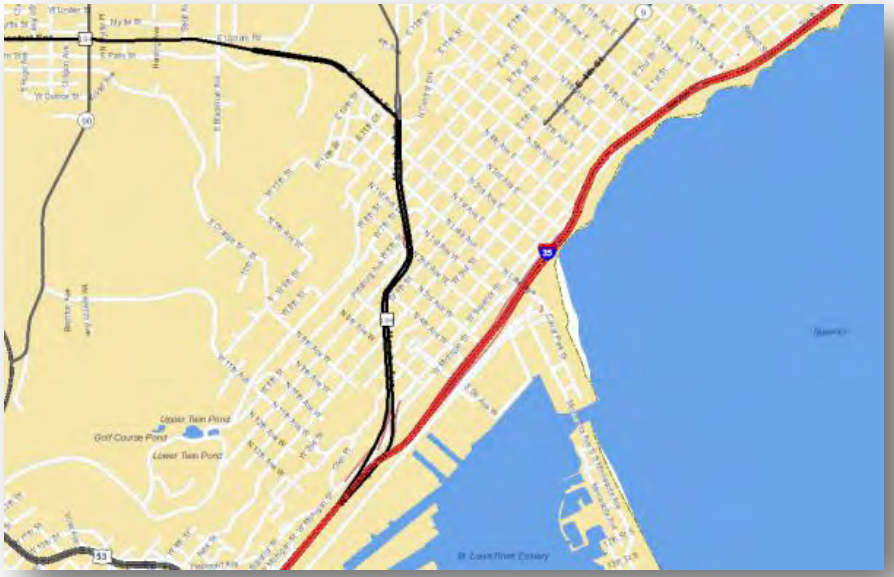
- Aligning with Department of Revenue
  - Property Records Information System of Minnesota
  - Did not include geometry to start with
  - Review data model for each system and align where possible.

  ⇒ Catalog the differences

  - Can we move forward together?
    - Align schedules
    - Reduce the number of requests to local

Street Centerlines

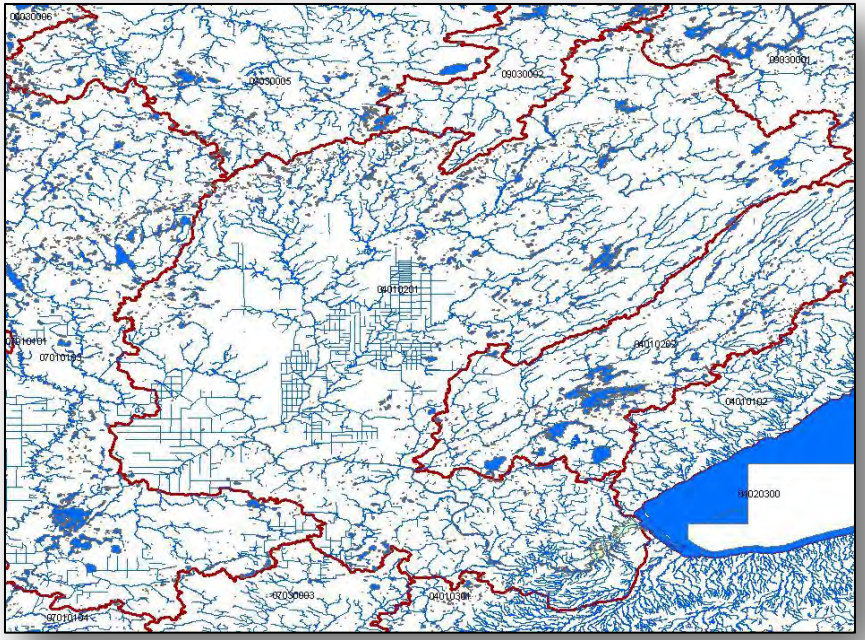
- Multi Government/Agency
  - MnDOT, MnGeo, Met Council
- Single Authoritative Centerline
- Common tools
- Roads and Highways at MnDOT
- Pilot and Partners
  - Stearns, Benton, Carver, Ramsey, Mahnomen
  - White Earth Nation
  - NextGen 911



National Hydrography Dataset (NHD)

NHD consists of . . . .

- Hydrographic features for making maps
- A national stream addressing system
- A modeling network for navigating upstream/downstream
- A maintenance infrastructure
- Additional tools to enhance use of data



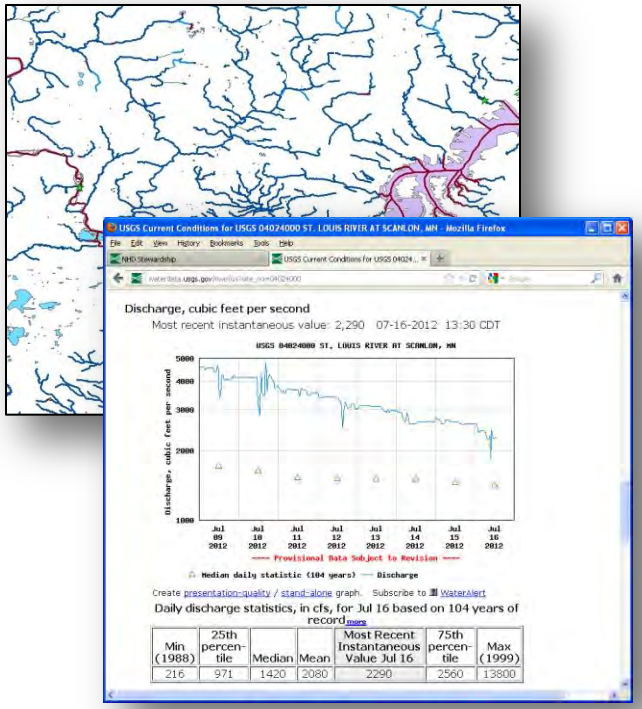
Minnesota Geospatial Information Office

MNIT SERVICES

NHD: A Framework for Data Integration

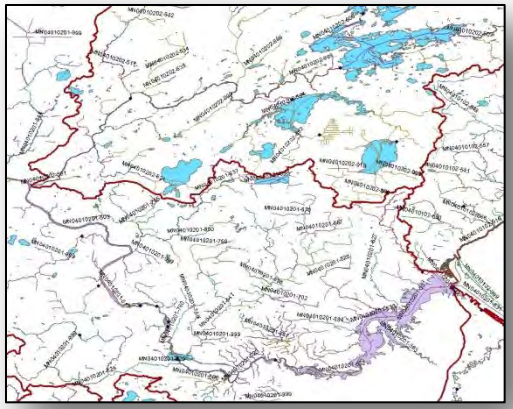
USGS Stream Gages

St. Louis River at Scanlon, MN



MPCA Water Quality Assessments

St. Louis River Basin

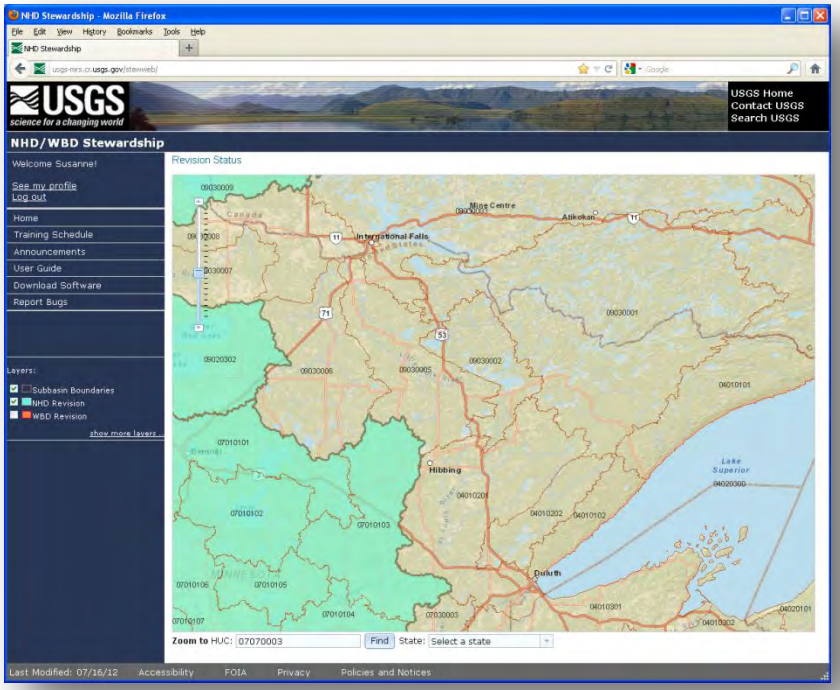


Minnesota Geospatial Information Office

MNIT SERVICES

NHD: National Framework - Collaborative Partners

- **Shared Development Environment**
  - National Sponsor - USGS
  - Federal Partners – EPA, USFS, BLM
  - Participants - State, Regional and Tribal Governments
- **State Stewardship**
  - USGS Site controls editor access, tracks updates
  - MnGeo as MN Steward
  - MPCA, USFS, Met Council as additional editors
- **Multi-state and Multi-national**



Minnesota Geospatial Information Office

MNIT SERVICES

Development of a Statewide Altered Watercourse Layer

Minnesota Pollution Control Agency

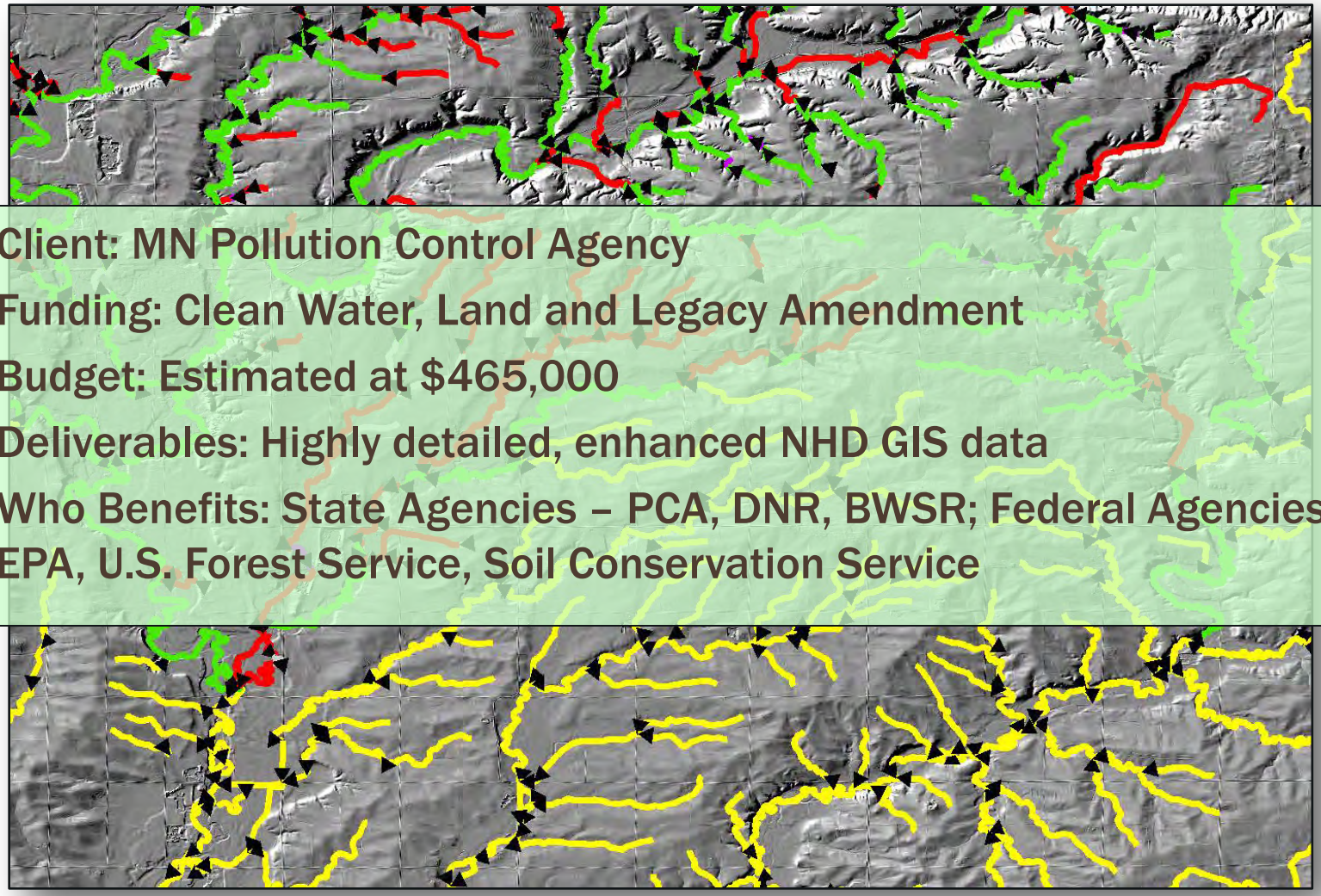
MnGeo

CLEAN WATER LAND & LEGACY AMENDMENT

Minnesota Geospatial Information Office

MNIT SERVICES

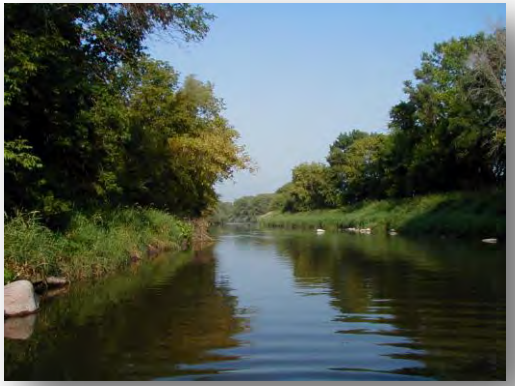
Altered Water Courses



- Client: MN Pollution Control Agency
- Funding: Clean Water, Land and Legacy Amendment
- Budget: Estimated at $465,000
- Deliverables: Highly detailed, enhanced NHD GIS data
- Who Benefits: State Agencies – PCA, DNR, BWSR; Federal Agencies – EPA, U.S. Forest Service, Soil Conservation Service

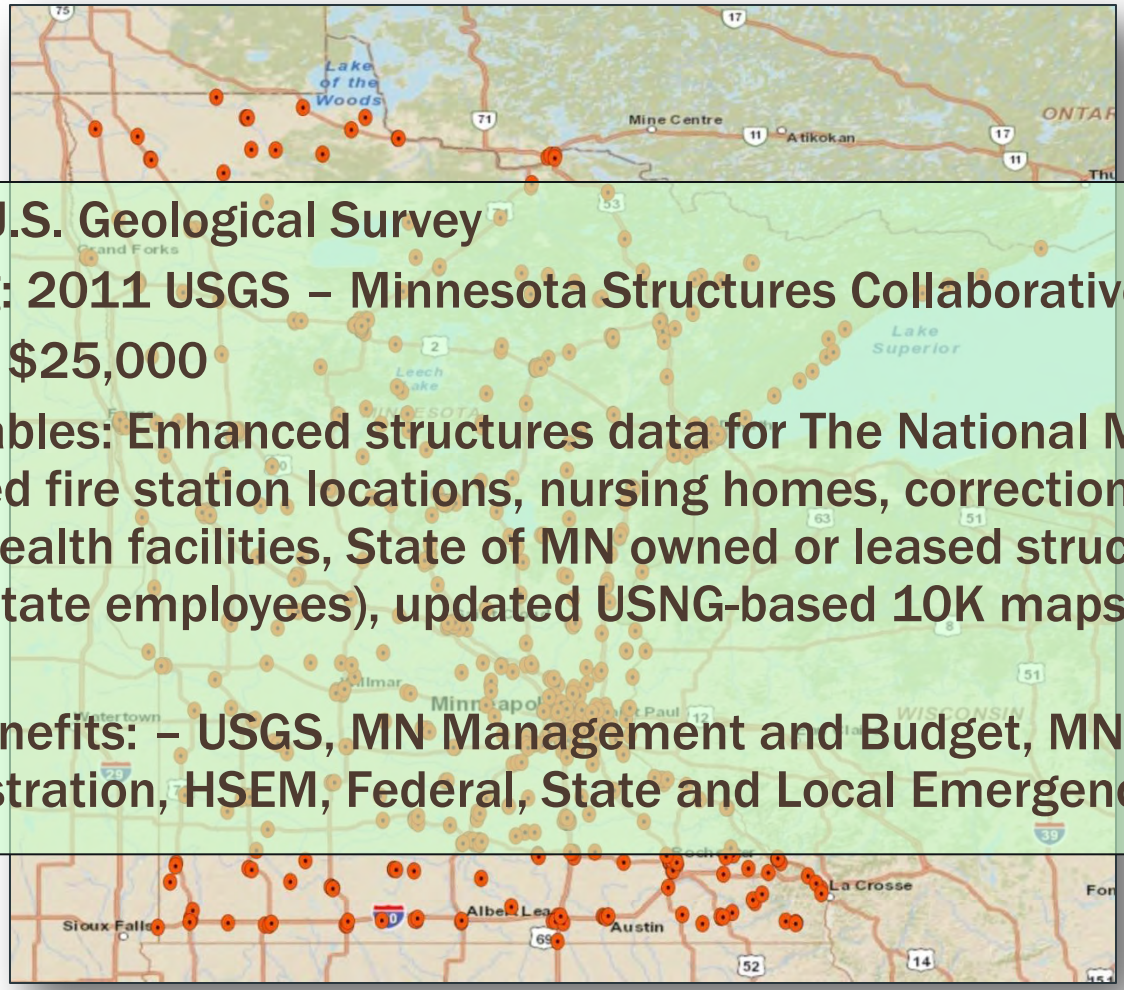
Altered Watercourses

- An altered watercourse is a stream/river or portion of a stream/river that has been modified in such a way to *alter* its natural course
  - Channel alterations include:
    - Channelized streams, ditches and impoundments
  - Channel alterations *do not* include:
    - Beaver dams, dredging, rip-rap, removed snags and wetlands



Minnesota Structures

State Structures Housing Employees



- Client: U.S. Geological Survey
- Funding: 2011 USGS – Minnesota Structures Collaborative
- Budget: $25,000
- Deliverables: Enhanced structures data for The National Map – improved fire station locations, nursing homes, correctional institutes, public health facilities, State of MN owned or leased structures (that house State employees), updated USNG-based 10K maps for the entire state
- Who Benefits: – USGS, MN Management and Budget, MN Dept. of Administration, HSEM, Federal, State and Local Emergency Managers

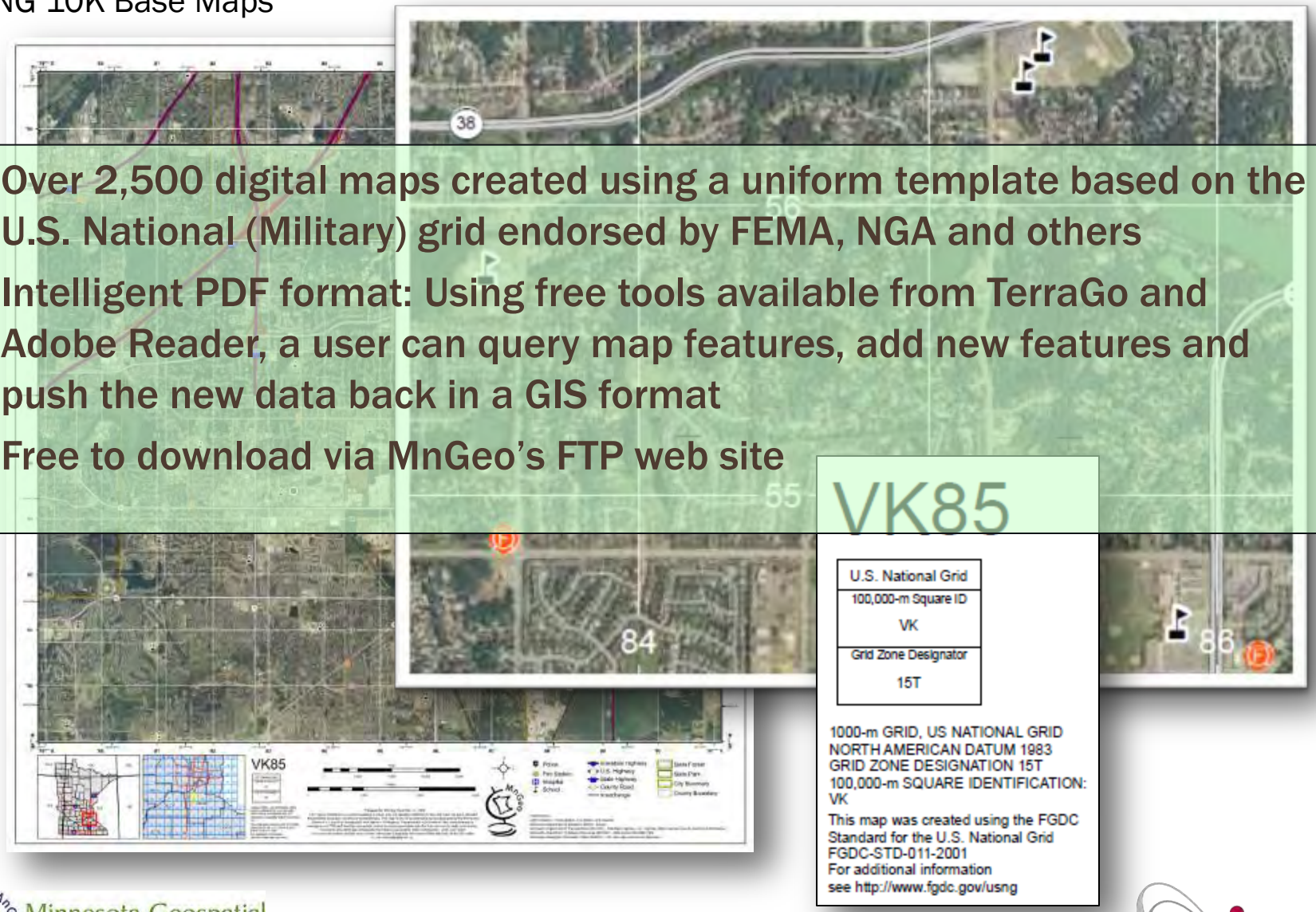
Minnesota Geospatial Information Office

MNIT SERVICES

Minnesota Structures Maps

USNG 10K Base Maps

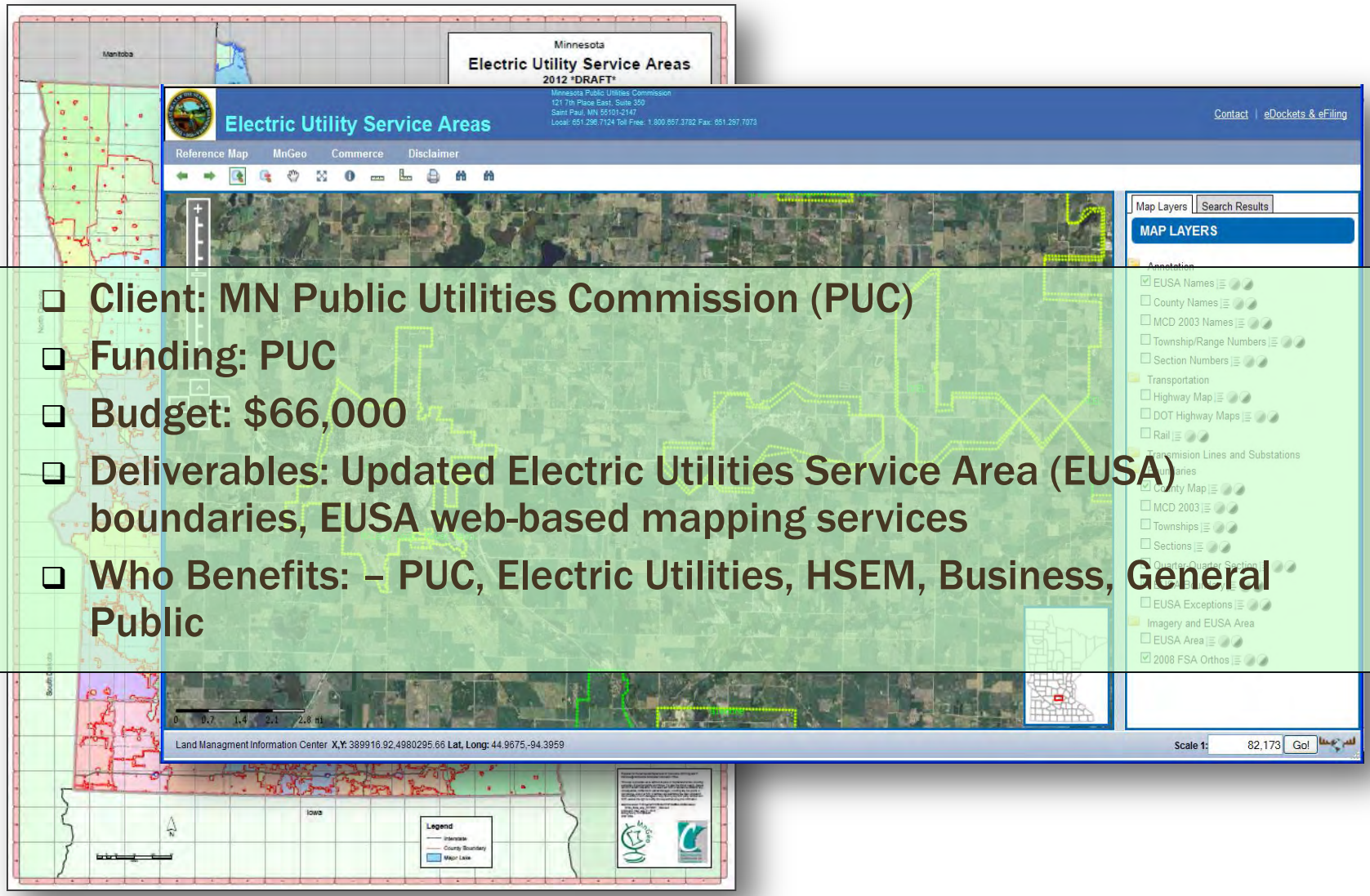
- Over 2,500 digital maps created using a uniform template based on the U.S. National (Military) grid endorsed by FEMA, NGA and others
- Intelligent PDF format: Using free tools available from TerraGo and Adobe Reader, a user can query map features, add new features and push the new data back in a GIS format
- Free to download via MnGeo's FTP web site



Minnesota Geospatial Information Office

MNIT SERVICES

Utility Service Areas

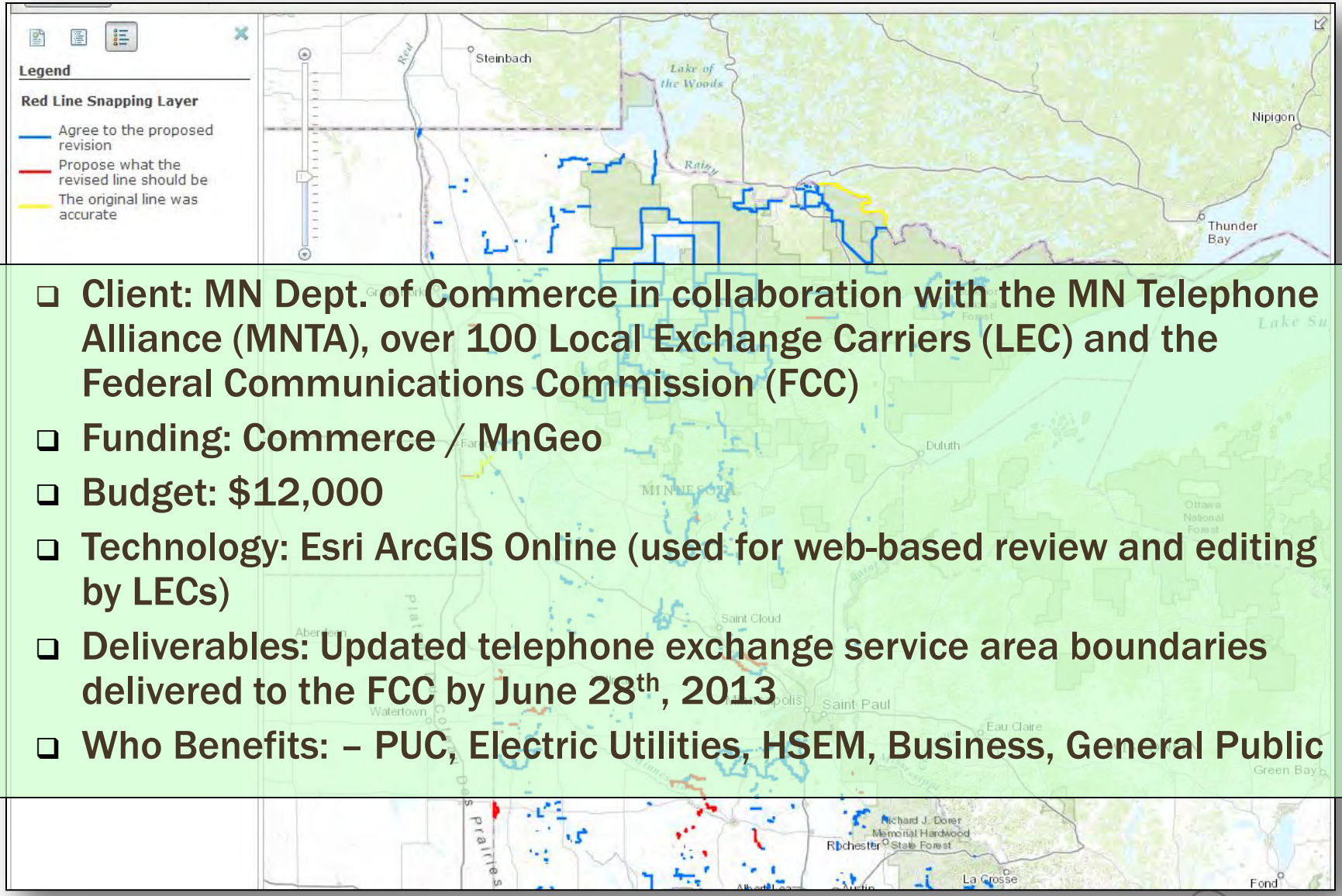


- Client: MN Public Utilities Commission (PUC)
- Funding: PUC
- Budget: $66,000
- Deliverables: Updated Electric Utilities Service Area (EUSA) boundaries, EUSA web-based mapping services
- Who Benefits: – PUC, Electric Utilities, HSEM, Business, General Public

Minnesota Geospatial Information Office

MNIT SERVICES

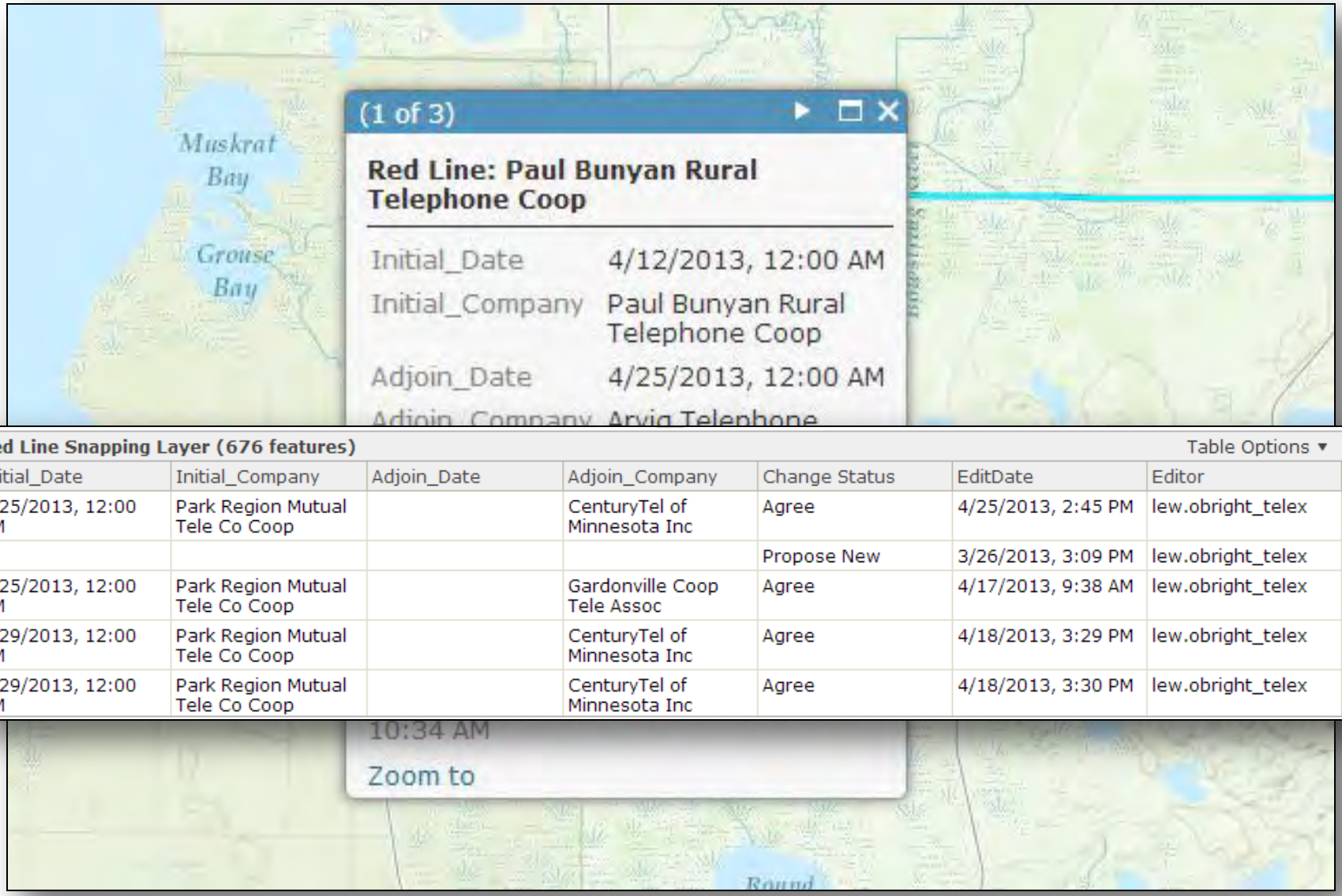
Minnesota Telephone Exchange Mapping



- Client: MN Dept. of Commerce in collaboration with the MN Telephone Alliance (MNTA), over 100 Local Exchange Carriers (LEC) and the Federal Communications Commission (FCC)
- Funding: Commerce / MnGeo
- Budget: $12,000
- Technology: Esri ArcGIS Online (used for web-based review and editing by LECs)
- Deliverables: Updated telephone exchange service area boundaries delivered to the FCC by June 28th, 2013
- Who Benefits: – PUC, Electric Utilities, HSEM, Business, General Public

MNIT SERVICES

Change With Popup (owner and time of last edit):



Red Line Snapping Layer (676 features) Table Options

Initial_Date	Initial_Company	Adjoin_Date	Adjoin_Company	Change Status	EditDate	Editor
3/25/2013, 12:00 AM	Park Region Mutual Tele Co Coop		CenturyTel of Minnesota Inc	Agree	4/25/2013, 2:45 PM	lew.obright_telex
				Propose New	3/26/2013, 3:09 PM	lew.obright_telex
3/25/2013, 12:00 AM	Park Region Mutual Tele Co Coop		Gardonville Coop Tele Assoc	Agree	4/17/2013, 9:38 AM	lew.obright_telex
3/29/2013, 12:00 AM	Park Region Mutual Tele Co Coop		CenturyTel of Minnesota Inc	Agree	4/18/2013, 3:29 PM	lew.obright_telex
3/29/2013, 12:00 AM	Park Region Mutual Tele Co Coop		CenturyTel of Minnesota Inc	Agree	4/18/2013, 3:30 PM	lew.obright_telex

MNIT SERVICES

Questions and discussion…

Minnesota Geospatial Information Office

MNIT SERVICES