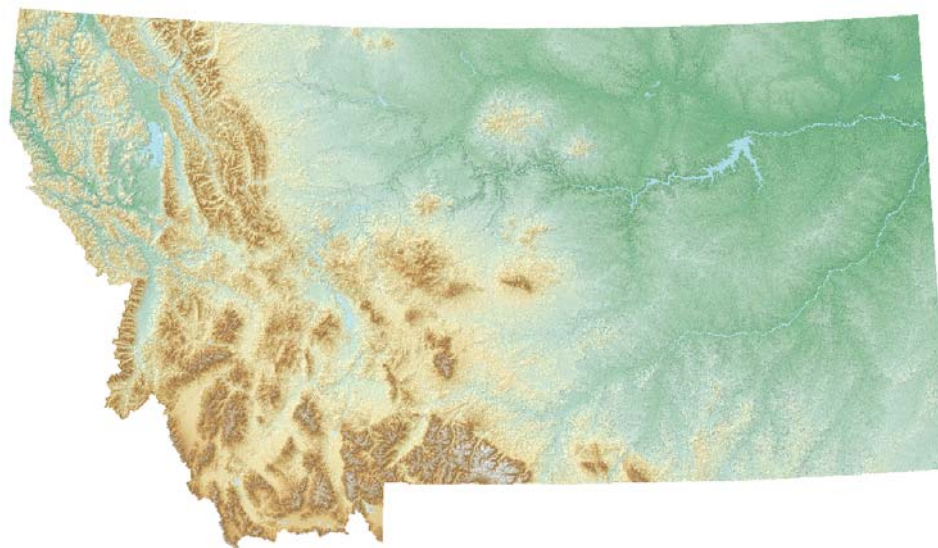


State of Montana

The Boundary Framework Dilemma



Erin Geraghty
Department of Administration
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Base Map Service Center



GIS in the State of Montana

- State of Montana
 - The Montana Spatial Data Infrastructure (MSDI)
 - Contains 13 Framework Layers
 - Seven nationally recognized geospatial "framework data layers"
 - Cadastral
 - Elevation
 - Geodetic Control
 - Government (Administrative) Units
 - Hydrography
 - Orthoimagery
 - Transportation
 - The State of Montana added six more layers:
 - Critical Infrastructure
 - Geology
 - Hydrologic Units
 - Land Use Land Cover
 - Soils
 - Wetlands

To learn more:

<http://giscoordination.mt.gov/>



Discovering the Problem: Pilot Project

A partnership project between the Montana Department of Administration, Information Technology Service Division, The U.S. Census Bureau with assistance from other stakeholders including the BLM, USGS and the FGDC Cadastral Subcommittee (November 2006)

- Phase 1:
 - Project Description: Create School Districts & Municipality Boundaries
 - Study Area: Lewis & Clark / Broadwater Counties
 - Collect boundary legal descriptions
 - Digitize boundaries
- Phase 2:
 - Examine the results and implications of the revised boundary themes from a State perspective.
 - Document a process for future boundary integration between local, tribal, state and federal partners.

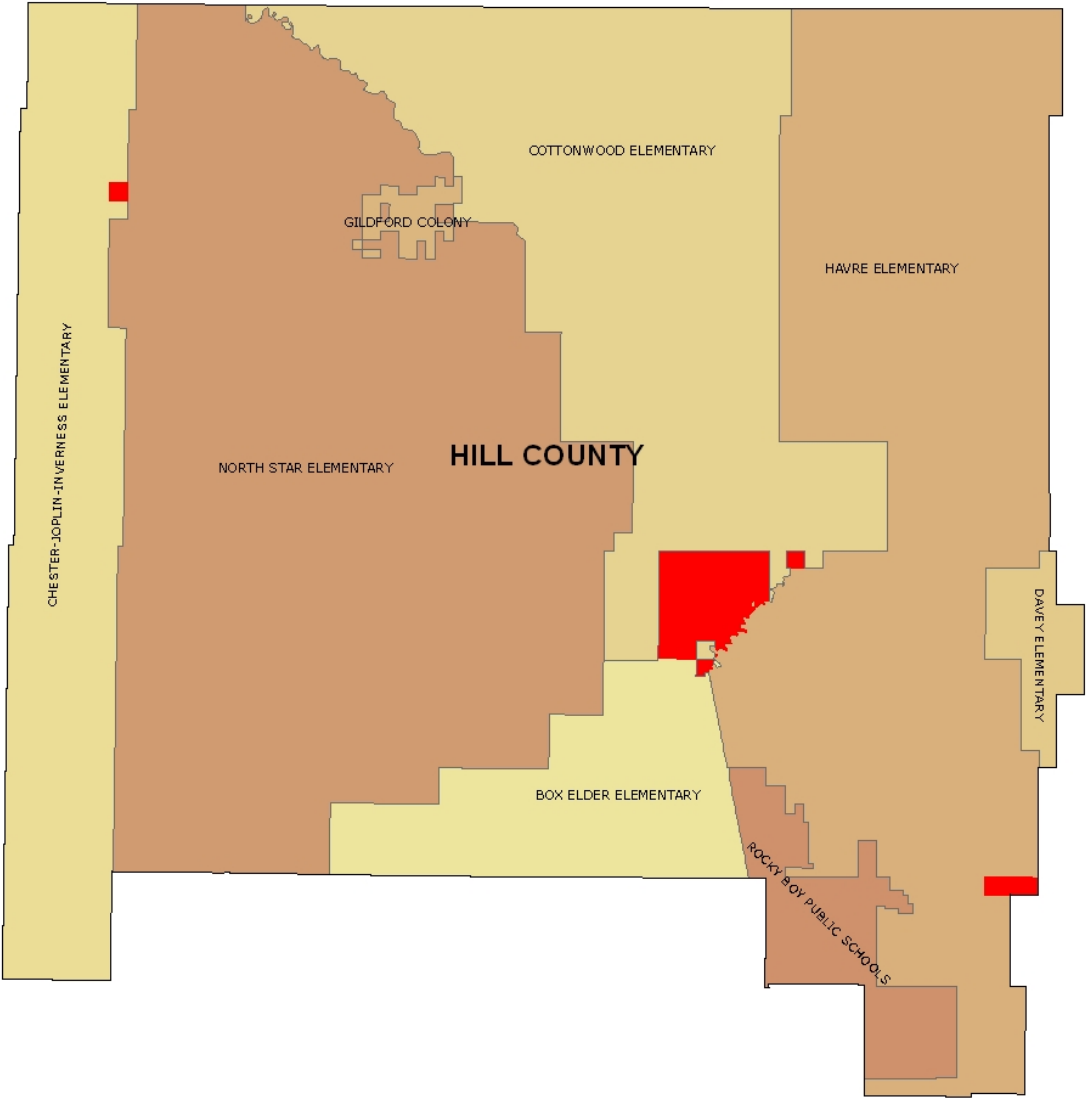


The Issues

- Legal Descriptions
 - Non-existent
 - Flawed
 - Lack in procedure
 - Lack in response from the local governments
- Census Data – only statewide layer available
 - Inaccurate
 - Procedural issues
 - Duplication of efforts



Legal Description Discrepancies



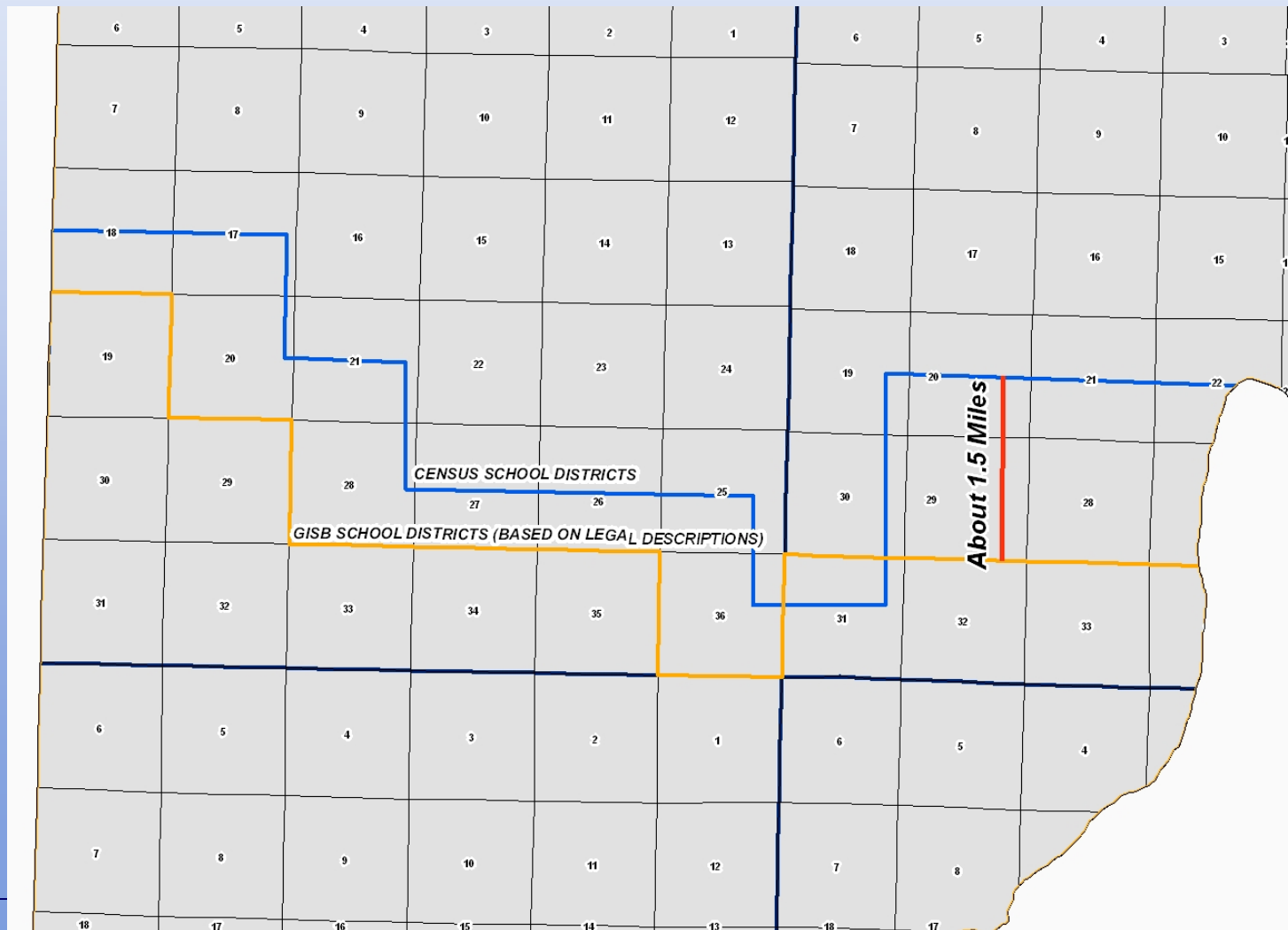
Example:

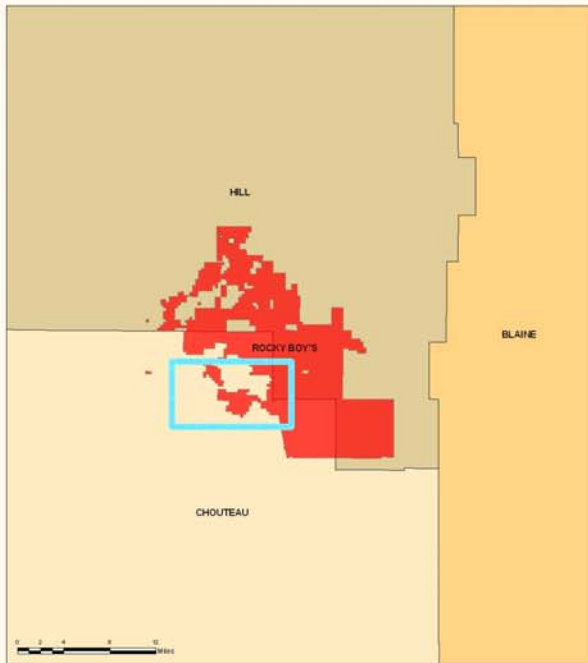
- Gaps in districts (red polygons)



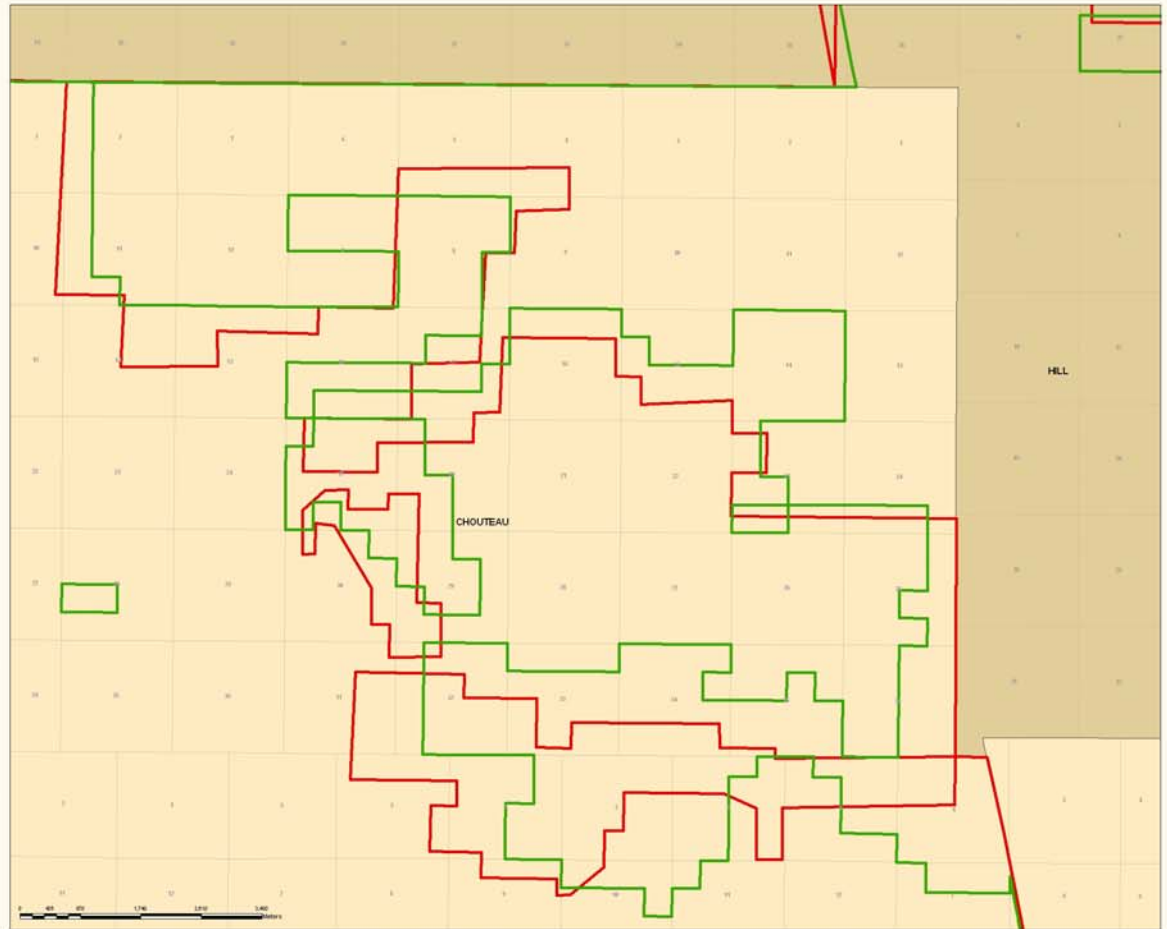
Data Discrepancies

Census Boundaries vs. State/Locally produced boundaries





Hill/Chouteau County (Rocky Boys Reservation) Area Overview



Discrepancies Between US Census Data and Data Created from Legal Descriptions: Rocky Boy Elementary School District

US CENSUS BUREAU SCHOOL DISTRICT BOUNDARY DATA DISCREPANCIES

HILL AND CHOUTEAU COUNTIES/ROCKY BOYS RESERVATION



Green – State created



Red – Census boundary



Digging Deeper:

- The problem was discovered:

Montana Statute was not being followed.

- Boundary Legal Descriptions are written legal documents depicting the delineation of a boundary.
- Legal Descriptions which are required by law, in most cases, were unavailable or flawed.
- What are/were the implications?



Existing Boundary Statute

(Municipalities/School Districts)

- *7-4-2616 Map book. The county clerk must keep a well-bound book which must contain maps of towns, villages, or additions to the same within his county, together with the description, acknowledgment, or other writing thereon.*
- *20-6-103. Permanent record of district boundaries. (1) The board of county commissioners shall maintain a permanent record which plainly and definitely describes the boundaries of each district within the county. The county superintendent shall keep a transcript of the record in his office and shall be responsible for keeping the record current.*



Changing Policy – Making GIS Relevant

- Perfect timing...
 - MLIAC – Montana Land Information Advisory Council
 - Governor's appointed council under the MLIA (Montana Land Information Act) (2005)
 - Geographic Information Officer for Montana (Spring 2007)
 - Robin Trenbeath
 - [House Bill 49](#) requires the Education and Local Government committee (ELG) to establish a subcommittee to conduct a study of local government special purpose districts. (Fall 2007)
- Use the GIO & MLIAC to effect change in legislation



Montana Boundaries Executive Summary

Boundaries define the rights and interests on the land. Ensuring any boundary in the State of Montana is correctly recorded and drawn is essential for several reasons:

- Legal: Establishing well-defined, consistent boundaries minimizes legal irregularities.
- Equitable collection/distribution of funds: Fees, taxes, or grants are associated with a defined area (e.g., fire district).
- Equitable distribution of benefits: boundary lines define benefit areas (e.g., public water/sewer districts).



Montana Boundaries Executive Summary

(cont'd)

- Mapping: Accurate boundary lines are used in creating paper maps, delivering online spatial-based services, and in public policy decision-making.
- “Bad” geography: Many new districts rely on existing, erroneous district boundary lines, thus producing a domino effect of inaccurate information.
- Public knowledge: Public information on district boundary legal descriptions and their corresponding maps should be correct and dependable.

**Executive summary used to justify GIS sections of HB 49
Draft Legislation.**



House Bill 49 – Committee on Education and Local Government

Unofficial Draft Copy As of: May 13, 2008 (11:21am)

NEW SECTION. Section 4. Determining special district boundaries.

The boundary must be mapped and clearly described before the special district may be approved.

- (1) The governing body or petitioners shall consult with the county clerk and recorder to prepare a legal description of the boundaries for the proposed special district.
- (2) The boundaries must follow property ownership, precinct, school district, municipal, and county lines as far as practical.
- (3) The legal description of boundaries must be reviewed by the county surveyor before the special district may be approved.



HB 49 cont'd

NEW SECTION. **Section 10. Additional reporting procedures - coordination of information collection, transfer, and accessibility.**

- (1) By the following January 1 after the creation of the special district, the governing body shall provide a description and map of the boundaries of the special district to the department of revenue.
- (2) The department of revenue shall review the description and map of the boundaries for the approved special district and record the:
 - (a) legal description of the special district;
 - (b) date of the creation of the special district; and
 - (c) book and page or document number as provided for in 7-4-2617.
- (3) (a) The department of revenue shall transfer information collected pursuant to this section to the department of administration.
 - (b) The department of revenue shall coordinate with the department of administration to develop procedures regarding the collection and transfer of special district information between the two agencies.
 - (c) The department of administration shall convert special district information received from the department of revenue to a digital format for land information purposes authorized in Title 90, chapter 1, part 4, that can be accessed through the department of administration's website.



The Duplication of Efforts

- Establishing a partnership with the Census Bureau to create a one agency contact for boundary updates.
 - Boundary Annexation Survey (BAS) - US Census Bureau is bound by statute to approach each local government for annual updates.
 - Partnerships currently exist with Kentucky and Georgia
 - Utah and Colorado are working to establishing similar partnerships
 - Continue to work with Census, State, and Local Governments on other programs:
 - i.e. LUCA

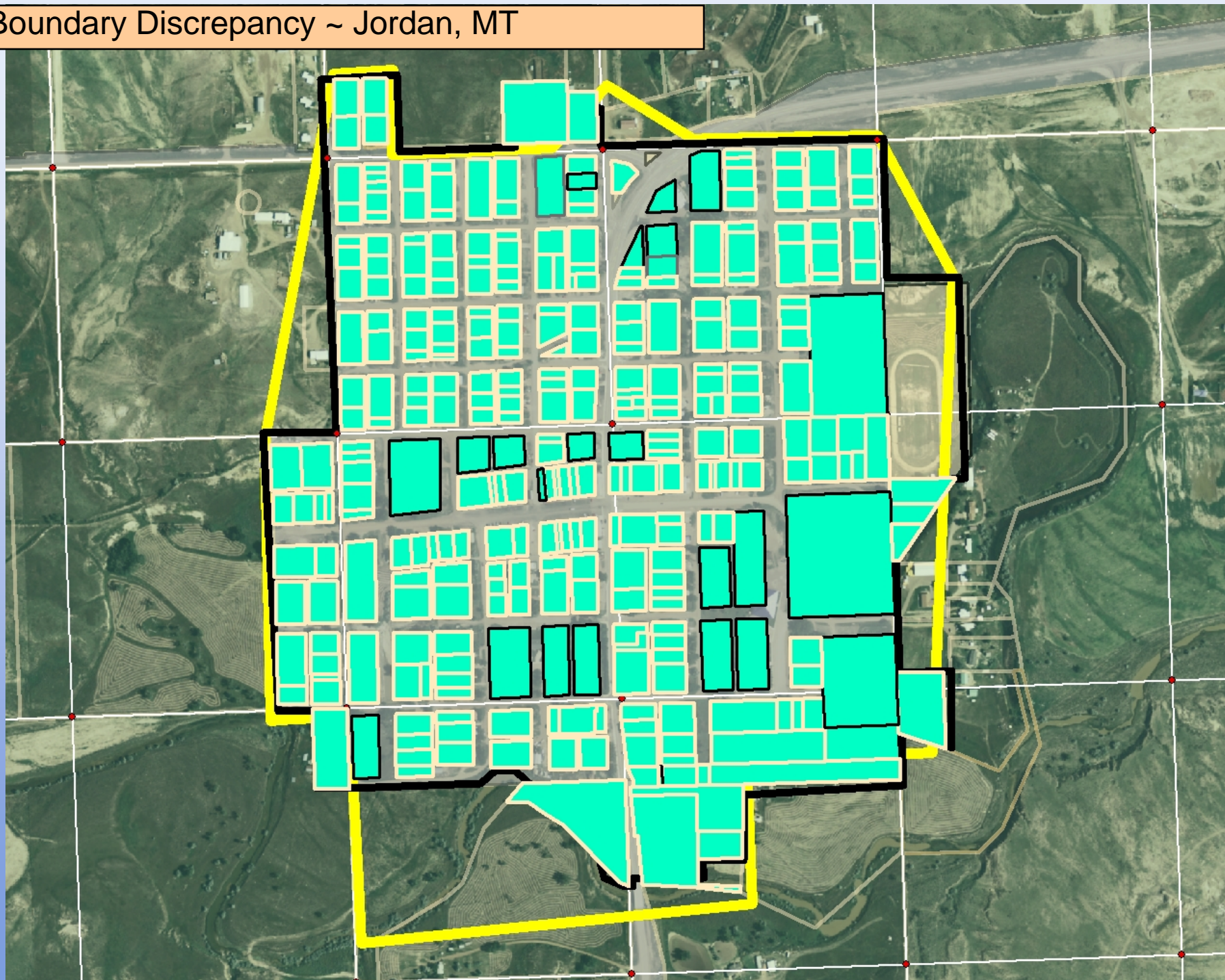


Becoming More Federated

- Engage in outreach program to counties.
 - Focusing on federal and state processes regarding boundaries and assist in writing and maintaining good legal descriptions.
 - Sharing of GIS data
- Work with State & Federal Agencies
 - Growing the Government Unit Framework with more sub-stewards
 - i.e. MDT – sub-stewards for municipalities
 - Finding existing & ‘natural’ sub-stewards



Boundary Discrepancy ~ Jordan, MT



Technical Aspect

- How will data be collected?
 - Use the federated approach
 - Sub-stewards of the Government Unit Framework
 - DNRC (Natural Resources & Conservation) is a Sub-steward for Rural Fire District Boundaries
 - SHPO (Historic Preservation) is a sub-steward for Historic Districts
- How will data be stored?
 - Where will the boundaries live?
 - Create a new data model vs. using Cadastral Data Model
 - Geographic Coordinate Data Base (GCDB) exists in the Cadastral Data Model
 - PLSS (Public Land Survey System) used in Montana
 - The Boundary data will exist in the Cadastral Data model
 - VERTICALLY INTEGRATED DATA



What's next?

- Continue to maintain existing boundaries: State, County, Tribal, and special districts
- Vertically integrate Municipality Boundaries
- HB 49 Draft Legislation
 - Taken to the Committee in September
 - Work to get it passed
- Start work/research other legislative GIS provisions
- Continue to create and maintain Federal, Tribal, State, and Local partnerships
- Continually seeking funding





Questions?

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