# Sheridan County
Montana

# Growth Policy
Adopted 03/2013


Sheridan County City-County Planning Board
Doug Smith, County Planner

With:
CTA Architects Engineers

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TABLE OF CONTENTS

# LIST OF MAPS



# LIST OF FIGURES


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# Acknowledgments

This Growth Policy was made possible by the contributions and cooperative input from numerous citizen participants, local stakeholders, county and city staff, and elected and appointed officials. Sheridan County thanks all those that participated.

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## Foreword

As with the original document, this report provides a general overview of Sheridan County's development and focuses primarily on land use and community development. Some of the primary objectives of this document are to provide information to citizen and community leaders; to provide a more comprehensive, long-range view of the area's growth; and to influence the public's attitudes toward decisions that affect growth.

This Growth Policy, like the comprehensive plan before it is, in part, a response to the rapid growth resulting from oil development. It also takes into consideration the similar growth potential found in the area's large reserves of coal and potash. The past oil boom and the potential near-term boom have made community leaders aware of how fast development and change can occur and that there is a need for a public policy that can address rapid growth, particularly in relation to providing essential public services and the compatibility of land uses.

Sheridan County's brief history has been marked by rapid change which has been largely due to outside economic forces. Considering the scope of changes which have occurred in the past and today's accelerating rate of change, it is difficult to predict or plan the county's future development; however, minimum community standards and basic policies can be developed so that new growth is in harmony with the existing community. In developing policies for future growth, consideration must be given to future generations who will inherit what we have left. Taking a long-range view, our patterns of consumption and resource exploitation must eventually give way to values of conservation and sustained yields. Sheridan County's primary renewable resource is the land, and every effort should be made to ensure its continued productivity. Today's growth and development serves as the foundation for tomorrow's community. If development is planned and built wisely, it will be an asset; if not, it will be a liability to future generations.

To be effective, planning must involve more than compulsory standards and regulations. Planning must be included in the community's attitudes and values which cannot be regulated but are a matter of individual conscience. Today's economic climate increasingly supports values of conservation and durability, but it also rewards speculation and quick profits which, in many cases, run counter to sound community planning. The quality of future development will depend on the community's awareness of the need for planning and the values of individual landowners who make the decisions concerning land use.

# Introduction

The Sheridan County Planning Board was created in 1974 by the County Commissioners. Since that time the three incorporated towns have become represented on the planning board. The planning board consists of nine members, five being appointed by the County commissioners and one each appointed by the four incorporated towns.

As stated in the resolution creating the planning board, its purpose is to encourage governing bodies in Sheridan County to improve the health, safety, convenience, and welfare of their citizens and to plan for the future development of their communities to the end that highway systems be carefully planned, that community centers grow only with adequate highway, utility, health, educational and recreational facilities; that the needs of agriculture, industry, and business be recognized in future growth; that the growth of the community be commensurate with and promote the efficient and economical use of public funds.

The philosophy behind Montana's planning laws is that planning is first a goal-defining and information gathering process and second, an advisory service to other public and private groups. As part of these duties, the law also requires that the planning board prepare a growth policy to address community needs.

Currently, the expansion of US oil development and advancements in oil and natural gas extraction technology has spurred an unprecedented boom across the northern plains, including areas of western North Dakota and northeastern Montana. This is a reoccurring theme and many of the local issues the growth policy aims to address stem from this macro-scale issue. For a region that has been through several boom and bust cycles, this is nothing new. Planning however, has also made advancements, and through the implementation of this document, many of these techniques will be put into practice to move Sheridan County toward a stable, resilient and healthy future.

## Purpose

The purpose of this growth policy is to inventory and analyze the existing resources and facilities of Sheridan County and to provide a basis for anticipating future needs and opportunities. The plan is also intended to provide advice, in the form of policies and recommendations, to public agencies and private groups within the county. The plan provides information and direction to the county's governing bodies so that they can formulate decisions and achieve a better community environment than would occur by chance.

A growth policy is also required to serve as a basis for any development ordinances or regulations which may be adopted in the future. In areas where future land use needs have been analyzed and mapped out, such as around Plentywood, growth can occur in a more orderly fashion.

A key element of any planning document is legibility, and the layout of this document is designed to easily and quickly communicate the county's visions, ideas, and facts. As such, a variety of visual elements are used in the text. Further, the key features of this document are prioritized. In other words, we introduce goals and policies and how they were determined in Part I, following by the land use concepts in Part II, and then a discussion existing conditions in Part III.

## Need

Once again, Sheridan County, and Plentywood in particular, are poised to experience rapid growth due to increased oil activity. Demands for housing, community services, and public facilities will likely increase, and in order to formulate decisions in meeting these demands, the county commissioners and the City of Plentywood have asked the county planning board to study the situation and offer constructive recommendations for action.

The primary concern is that new growth be in an orderly and efficient manner and be compatible with existing services and facilities. The only means available in having some control on growth which takes place outside the city limits is through zoning or other similar types of regulation.

Before any land use controls can be implemented a county growth policy must be adopted and more specifically, a land use plan must be developed for areas where growth is expected to occur.

The effects of haphazard growth may not be immediately apparent but sooner or later it will present obstacles to orderly urban growth and increase the costs of providing public services, as well as creating a conglomeration of conflicting land uses.

Other problems may include the development of land which is not suitable for the use intended which can result in property damage due to flooding or structural failure. In other cases access to new development may be inadequate for public use or create traffic hazards onto public roads. The conversion of prime agricultural lands to other uses is not seen as a pressing concern in Sheridan County, however, the cumulative effect results in a weakening of the county's agricultural base. As urban growth and energy and related development continues to increase, it can create problems for agricultural producers. Because of the long-term importance of agriculture to Sheridan County's economy it is essential that the raising of crops and livestock be conducted with a minimum of interference from other industries or land developments.

Although it is difficult to immediately solve these problems, certain first steps can be taken to begin reducing their effects as much as possible.

## Process and Public Involvement

Comprehensive planning is an information gathering and advisory activity, and meant to be a continuing, dynamic, process. Policies and plans must be flexible to meet changing needs and eventually changing conditions or a predominance of different community values will require changing the policies and recommendations contained in this plan. This document is meant to provide a basis for continued planning and is designed so that it may be periodically updated when the need arises.

The planning process in this case involves the preparation of a growth policy to assess and analyze the resources of Sheridan County. To be effective and useful, a growth policy must be sensitive to the needs and desires of the public. The goals outlined in this plan reflect the desires of the people and the objectives for making the community a safe, decent and harmonious place to live. A key to the planning process is public involvement. The planning board and governing body must be aware of the attitudes of the people, and the public must understand the purposes and see the need for planning before it can be effective.

Communication and coordination are important for a successful growth policy. The planning process involved gathering information in two parts. First, planners met periodically throughout the planning process with the Planning Board to review the progress of work, inform the commission of the results, and take feedback on areas needing additional work. Second, to build in public safeguards into the process, planners hosted public workshops throughout the County to develop thoughts and visions regarding the community's ideal future growth.

To successfully capture public goals and visions, planners organized workshops that utilized a straightforward comment system. Each workshop participant was handed a questionnaire designed to translate ideas into planning goals. Planners also designed sticky-note comment boards to gain general responses to relevant issues. Questions asked included, "What kinds of public services are needed?" Planners also led discussions to capture public response to draft land use maps, the final versions of which are found later in this document. These workshops were conducted in Plentywood, Medicine Lake and Westby, the County's three major population centers. Informed by public input, the goals were revised as necessary in coordination with the Planning Board. These goals represent a basic mandate for the direction of the plan and what it is supposed to achieve. All survey instruments and comment boards can be found in Appendix B, along with compiled data presented in tables and charts.

In addition to public workshops, planners met or had discussions with key stakeholders across the county, including fire, sanitation, education, and public facilities directors. These meetings facilitated the discussion of existing conditions that can be found in Part III of this plan. The data presented in this discussion became another resource for developing growth policies, particularly those regarding facilities upgrades and public service improvements. This process also assisted the identification of facilities and services that are adequate considering future growth scenarios.

After a set of goals were finalized, the planners developed corresponding recommendations that are intended to achieve the goals. As with the goals, the recommendations are concise and general and are intended to summarize the main themes of action the County should undertake to achieve the primary goals. In the Action Plan presented in Part I, these recommendations are distilled into a set of objectives and actions that are the means to achieve goals. Planners prepared the set of recommendations by presenting a variety of potential strategies to the Planning Board and working with the Commission to narrow the list to a workable number of preferred strategies.

At the conclusion of the meetings and following any needed revisions, a revised final draft to the Planning Board was presented for review and approval. At end of this stage, the Planning Board was responsible for bringing the growth policy forward for adoption. Planning staff supported the adoption process and were present at a public hearing with the Planning Board and another hearing with the Board of County Commissioners when final approval was granted.

## Implementation Strategy

The success of any plan is dependent upon the tools used to implement the plan. The tools available for implementing the land use portion of the plan include subdivision and land use regulation or zoning. Education is also an important tool; if effective, it can reduce or eliminate the need for regulation or work in areas where regulation is not practical.

Land use regulations, such as zoning or development standards, are the only tools available on a local level to maintain orderly development and prevent conflicting uses of land. The adoption or implementation of development controls can only take place after extensive public review and after the growth policy has been completed, reviewed and adopted. Currently, the need for a county-wide zoning or permitting system is being reviewed. In concurrence, this document provides a series of maps that may become a base for zoning at the local and county level, should the need be warranted by the public and governing bodies.

*A workshop participant attaches ideas to one of the sticky-note comment boards in Medicine Lake.*

*Citizens attend public workshops in Westby (top and middle) and Medicine Lake (bottom).*

Another area where planning can be useful is through determining the capacities of various public services and facilities, and determining at what points they may become inadequate to meet increasing demand. This allows local government and the community time to prepare for changes instead of just reacting to them as they come along.

Success of any implementation measures ultimately depend on individual effort and cooperation. Planning cannot solve all our problems but it can deal directly with some of them and in the process prevent new ones from arising.

## Periodic Review and Update

Periodic review and update of this document is necessary due to the nature and pace of change in the county, and the unpredictability of boom and bust cycles in oil development. Therefore it is strongly recommended that the Growth Policy be reviewed every five years and updated as necessary. The Planning Board shall be responsible for this process, which in sum is a review of the Growth Policy's effectiveness in carrying out the county's goals.

The review should at minimum undertake the following:

- Identifying what parts or policies work or do not work
- Evaluating the effectiveness of actions in the accomplishment of objectives
- Evaluating land use maps and recommendations
- Revisiting past goals, objectives, and actions
- Identifying new issues
- Revisiting growth trends and socioeconomic data
- Noting unintended consequences of existing policies or actions
- Evaluating the Growth Policy's correspondence with any planned capital improvements projects

Should the County Planning Board recognize a need to update the Growth Policy, they shall submit a written report and recommendation to the County Commission. The Planning Board shall also prepare for the County Commission a scope of work and schedule for completion of the recommended revisions.

## Amending the Growth Policy

This Growth Policy provides for any person to apply for an amendment to any map or other part of the document. General conditions that may lead to an amendment to this Growth Policy include:

- An error that exists in the document or on any map that must be corrected in order to preserve a property right or to preserve equal protection under the law
- The current situation or conditions have changed to a degree that any portion of the document is no longer clear, and/or is no longer applicable to community goals and visions
- The amendment would provide an extraordinary community benefit in regards to achieving the goals listed in the document or those determined upon a review
- A change in state legislation
- New development techniques or proposals exist which are not accounted for in the existing plan

### Standards for Approval

A Growth Policy amendment shall be approved if the Planning Board finds that:

- The proposed amendment corrects or addresses errors in any map, graphic, text, or other information;
- The proposed amendment will result in logical, orderly, and consistent development pattern;
- The proposed amendment will aid in achieving the visions, goals, objectives, or specific actions listed in the Growth Policy;
- The proposed amendment will not create conditions that will result in undue hardships for Sheridan County residents.

### Amendment Procedure

A application for an amendment to the Growth Policy shall follow the following process:

- A pre-application meeting is scheduled with county planning staff.
- An amendment application is submitted (Appendix B) to county planning staff.
- Staff will evaluate and review the application and shall prepare a Staff Report to address the evaluation.
- Planning Commission shall review the application at a scheduled public hearing. The Planning Commission shall approve or deny, by written resolution, the amendment based on compliance with the conditions listed above. If approved, the Planning Commission shall certify the amended Growth Policy to the County Commission.

### Amendment Submittal Requirements

Any submission for an amendment to the Growth Policy should include:

- A cover letter with a detailed narrative that describes the purpose of the proposed amendment.
- A completed Application for Growth Policy Amendment (Appendix B).
- If applicable to a map amendment, a legal description of the real property owned by the applicant in Sheridan County.
- If applicable to a map amendment, a vicinity map showing the parcel(s) location in the county.
- Any attachments as required by the pre-application meeting.

## Strategy for Public Infrastructure

This document presents a discussion on the existing condition of public facilities and infrastructure in Part III. Included in this are maps and evaluations of the county's public systems, including road, water, and sewer systems, as well as a discussion of any proposed or planned improvements. However, this discourse does not provide for how and when improvements should be made. The pace of growth may require public infrastructure projects to be completed on an aggressive time frame, in which case it is recommended the county consider performing a Needs Assessment and/or drafting a Capital Improvements Plan (CIP) and schedule.

The CIP ranks projects by need and must be coordinated with the goals and discussions in this Growth Policy. Such a document will help county officials secure funding for periodic maintenance or urgent repairs to public infrastructure, and should become a part of the county's budget process.

## Subdivision Review Criteria

State law requires a statement describing how the governing body will define criteria and evaluate and review subdivisions within the county. Subdivision regulations mandated by state law have been in effect since 1975 in Sheridan County. Subdivision plans are reviewed and approved through the Sheridan County Planning Board and/or the State Department of Environmental Quality (DEQ).

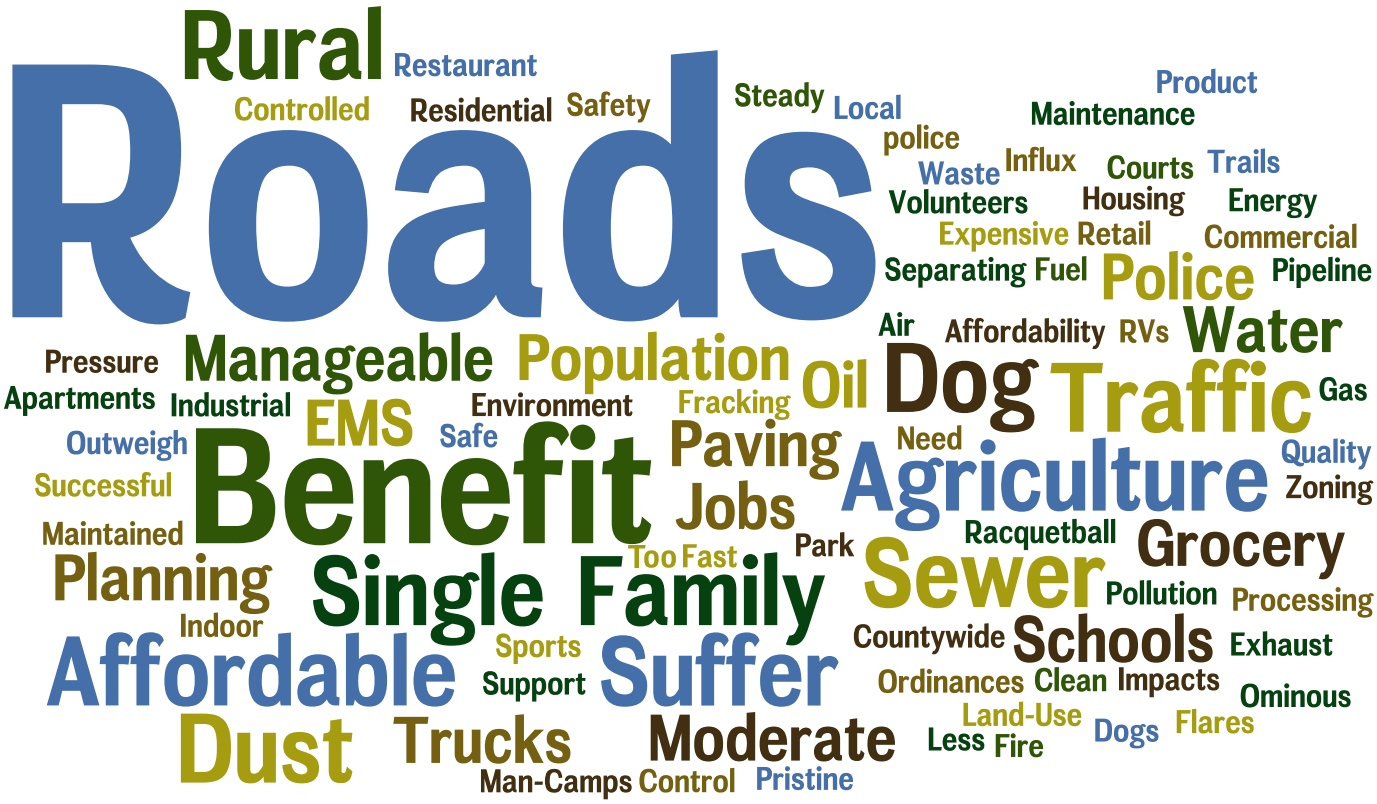
The Montana Subdivision and Platting Act applies to any division of land into parcels less than 160 acres and provides six criteria for subdivision review (76-3-608, MCA). It is recommended that the county use these guidelines. Therefore, subdivisions in Sheridan County will be evaluated for their material effect on those six criteria. Significant unmitigated adverse impacts to the community are grounds for denial of proposed subdivisions.

The Sanitation in Subdivisions Act applies to any division of land less than 20 acres. The DEQ and local sanitarian review the plans for sewage disposal, water supply, and storm water runoff. Divisions of land with an existing septic system installed prior to April 29, 1993 may be exempted from sanitation review.

## Evaluation of Wildland Fire Potential

The county has determined that conditions for fighting wildland fires are adequate and the county will rely on existing wildland fire maintenance and suppression as has been provided by municipal, rural, and state fire agencies.


DANIELS
Scobey
Outlook
SHERIDAN
COUNTY
Plentywood
Westby
Wolf Point
ROOSEVELT
Medicine Lake
N
RICHLAND
Culbertson
WILLIAMS
DAWSON
Williston




*The above Word Cloud displays frequently expressed issues from the public workshops. It illustrates that road maintenance and rural paving are among the biggest concerns expressed by county citizens. Housing affordability, oil development benefits, and preserving agriculture were also key issues.*

# Part I: Goals, Objectives, and Actions

The following goals and objectives have been adopted by the Sheridan County Planning Board as a policy guide for future planning in the county. This set of goals and objectives address problems or concerns that the Planning Board sees in the community. The list of goals and objectives is by no means complete. It does not address all the concerns in any one area, nor does it anticipate new problems that will undoubtedly arise in the future. It also does not specifically address problems of a social or cultural nature because it is felt that these concerns should lie outside the sphere of local government influence. However, these areas cannot be ignored from a comprehensive viewpoint and should be considered in any planning process.

The Planning Board has determined basic community issues through community evaluation by the board members and staff, and through interactions with civic groups and involved local residents.

The goals are statements of policy describing the achievements for which residents of the area are striving. The objectives identify specific areas of concern and provide a focus for recommending or implementing measures which will help to meet the goals and needs of the community. The following matrices, found on the right-hand page, describe a list of actions to be carried out to fulfill each objective. These matrices make up the Growth Policy's implementation strategy and action plan. Through the workshop process, stakeholders and the public informed the making of broad goals, which are made more specific with objectives, which in turn are carried out through actions.

Specific recommendations are outlined in Part II, and are directed primarily towards local government's policies and their responsibilities in providing public services.

## Goal Formulation and Public Input

As mentioned, public workshops were held in three communities in Sheridan County. Residents and officials from Plentywood, Westby, and Medicine Lake commented on future land use maps, their personal concerns, and provided input with a survey (instrument can be found in Appendix A).

### Public Survey Summary

The following is a compilation of data gathered from the public and stakeholder input sessions. Scores are an average of all county participants.

#### Public Services and Facilities

When asked to score the adequacy of public facilities, Sheridan County residents generally found most facilities adequate or very adequate. Sewer, however, was found to be the least adequate, followed by police services and recreation areas. County-wide library services, emergency medical, and fire services were highly ranked by all participants.

Issue #1: Public infrastructure and services need improvement

- Sheridan County citizens ranked Sewer, Police, and Recreation Areas the least adequate services or facilities
- "County infrastructure needs improvement" was the most agreed-with statement regarding planning and development. "County public services need improvement" was third.

#### Planning and Development

County citizens strongly agreed that the county's infrastructure needs to be improved, and that development should pay for itself. Survey results showed respondents agreed that public services need improvement. Of the statements listed (see table at right, bottom), directing growth only in towns was less agreed-with than other statements.

Issue #2: Greater land use control is potentially needed

- Sheridan County citizens agreed that "Development should pay for itself", and that "Land use should determine development amount", and to a lesser extent, development location.

#### General Economic Issues

Private property rights, supporting small or local businesses, water rights, and housing were the most important items regarding general economic issues, while tourism and oil development were deemed less important in guiding planning efforts, however all of the listed topics were found to be important.

| **Public Services and Facilities** | Adequacy (Out of 5) |
|---|---|
| Library | 4.2 |
| EMS | 4.0 |
| Fire | 4.0 |
| Medical Clinics | 4.0 |
| Hospital | 3.8 |
| Senior Services | 3.8 |
| Public Meeting Areas | 3.7 |
| Solid Waste | 3.6 |
| Water | 3.6 |
| TV/Internet | 3.4 |
| Recreation Areas | 3.4 |
| Police | 3.3 |
| Sewer | 3.1 |

| **Planning and Development** | Agreed With (Out of 5) |
|---|---|
| County infrastructure needs improvement | 4.6 |
| Development should pay for itself | 4.0 |
| Country public services need improvement | 3.9 |
| Land use should determine development amount | 3.8 |
| Development shouldn't increase taxes | 3.8 |
| Land use should determine development location | 3.7 |
| Population should grow only in towns | 3.7 |
| Housing should locate only in towns | 3.5 |

Issue #3: Individual rights need to be protected

- Survey respondents voiced concern over the need for land use controls, however their private property rights must be preserved.

**Preferred Housing Type**

Survey respondents placed an emphasis on rental housing units and single family dwellings rather than mobile homes, RV parks, or man camps. Grocery stores were the most preferred business type, followed by eateries, and retail stores. RV parks, gas stations, and additional agricultural businesses were the least voted-for business type.

Issue #4: There is an immediate lack of desired housing

- Affordable rental units are needed to accommodate education, healthcare, and service sector workers.
- The community perceives a lack of new single family housing that could accommodate longer-term residents.
- Man camps and RV parks are not in the community's long-term goals for housing development, yet are likely the most prevalent new housing type in Sheridan County.

**Preferred Business Type**

When asked to select preferred businesses, grocery stores and eateries where most frequently chosen type. Retail stores were the third most chosen. RV parks, gas or services stations, and additional farming businesses were the least voted-for type.

Issue #5: Service sector businesses are lacking in Sheridan County's towns and cities.

- There is a clear unmet need in the food service industry and for food providers, with new groceries and eateries being most preferred.

Issue #6: New RV parks, gas stations and agricultural businesses are not preferred.

- New businesses associated with oil development, although necessary, are generally unwanted by Sheridan County residents.
- The public feels that there is an adequate number of agricultural businesses.

The following goals and objectives respond to the issues presented above and in all other forms of outreach performed in the public and stakeholder input process.

| **General Economic Issues** | Interest (Out of 5) |
|---|---|
| Property Rights | 4.7 |
| Support Small Business | 4.6 |
| Water Rights | 4.6 |
| Housing | 4.6 |
| Economic Development | 4.4 |
| Natural Resources | 4.2 |
| Weeds | 4.2 |
| Agricultural Products | 4.2 |
| Work Force Development | 4.2 |
| Oil Development | 4.1 |
| Tourism | 3.5 |

| **Preferred Housing Type** | Percent |
|---|---|
| Rental Units | 32% |
| Single Family | 30% |
| Senior Housing | 13% |
| Assisted Living | 11% |
| Mobile Homes | 8% |
| RV Parks | 5% |
| Man Camps | 1% |
| None | 0% |

| **Preferred Business Type** | Percent |
|---|---|
| Grocery | 16% |
| Restaurant/Cafe | 16% |
| Retail | 12% |
| Energy Development | 11% |
| Motel/Hotel | 10% |
| Agricultural Retail | 9% |
| Factory or Manufacturing | 9% |
| Farm/Ranch | 7% |
| Gas or Service Stations | 6% |
| RV Park | 4% |

## Land Use

Land use goals and objectives are key implementation tools for this Growth Policy. They translate public vision into on-the-ground policies. The future land use maps at the end of Part II are the recommendations for the land use element, preceded by an in-depth discussion.

Vision:

> *Sheridan County has prime and abundant agricultural lands, its urban areas are cohesive and connected, and its citizens have adequate access, services, and control over what development happens on their land, and where it occurs.*

Goal:

To encourage the use of land which is suitable for development, while preserving agricultural productivity, conserving natural resources, and protecting property rights.

Objectives:

1) To encourage development on lands best suited for that use and to limit development on lands which are potentially hazardous due to flooding, unstable soils, or excessive slopes.

2) To encourage orderly growth through the adoption of urban land use regulations which will discourage haphazard development such as strip developments, sprawl, and conflicting land uses.

3) To encourage planned urban developments which use community services and facilities when they are adequate.

4) To protect agricultural productivity through the development of land use regulations with minimum interference to personal property rights.

5) To promote agricultural practices which will maintain productivity, conserve resources and protect the environment.

6) To endeavor to preserve the natural beauty and high environmental quality of the county.

7) To encourage local control and maintenance of land use regulations and decisions

Actions:

1) Inventory and assess areas at high risk of soil erosion or productivity loss.

2) Cooperate with owners of high risk land to plant and maintain soil stabilizing crops and to practice strip cropping.

3) Inventory areas of abundant natural and environmental amenities.

4) Map areas with adequate facilities for future growth.

5) Encourage landowners and stakeholders in unincorporated areas to participate in the development process.

6) Perform a Capital Improvements Plan to forecast future needs for infrastructure and services.

7) Develop a limits of annexation map.

8) Adopt a permit system or assess the feasibility of zoning for new county-wide development.

## Land Use Actions

| Objectives | Action 1 Inventory and assess areas at high risk of soil erosion or productivity loss | Action 2 Cooperate with owners of high risk land to practice mitigative measures such as planting or maintaining soil stabilizing crops, strip cropping, or reducing overtillage | Action 3 Inventory and identify areas of abundant natural and environmental amenities | Action 4 Identify, assess and map areas with adequate facilities, services and appropriate physical conditions for future growth | Action 5 Encourage landowners and stakeholders in unincorporated areas to participate in development process | Action 6 Perform a capital improvements study and schedule to forecast future needs for infrastructure and services | Action 7 Develop a limits of annexation map | Action 8 Adopt a permit system and assess the feasibility of zoning for new countywide development |
|---|---|---|---|---|---|---|---|---|
| Encourage development only on the most suitable lands | * | * | * | * | | * | | * |
| Encourage orderly growth through urban land use regulations which will discourage haphazard development | | | | * | | | * | * |
| Encourage planned urban developments which use community services and facilities when they are adequate | | | | | | * | * | * |
| Protect agriculture with land use regulations with minimum interference to property rights | | | | * | | | * | * |
| Promote agricultural practices which will maintain productivity, conserve resources and protect the environment | * | * | | | | | | |
| Preserve the natural beauty and high environmental quality of the county | * | * | | | | | | |
| Encourage local control and maintenance of land use regulations and decisions | | | | | * | | | |

*Land Use Objectives and Actions*

## Residential Development and Housing

Housing demand in Sheridan County and the region will continue to be impacted by changes in agricultural production and booms or busts in energy development. Previous boom periods have shown that the first wave of oil field workers generally demand short-term and temporary housing, while over a longer term growing families begin to prefer permanent single or multiple family homes.

County residents have recognized the need for short-term rental housing while expressing a preference for single family homes in long-term. The county must continuously assess it's housing needs in tandem with fluctuating populations. Favored policies would promote an adequate housing supply that meets the quality and character of the community, with an emphasis on utilizing land use controls to ensure the vision, goal, and objectives below are met.

Vision:

> *Sheridan County has adequate, affordable, and diverse housing choices for all its residents, has housing located where it is most efficient and compatible with their surroundings, and provides homes that are constructed and planned to sufficiently meet the needs of their users.*

Goal:

To provide adequate and affordable housing for all residents and to encourage a safe, decent, and balanced housing system compatible with existing and future community needs.

Objectives:

1) To encourage properly planned residential developments which include adequate water and sewer systems and other essential services.

2) To encourage residential development patterns and housing which conserves energy, promotes efficiency in providing public services, and provides a healthy living environment.

3) To encourage the minimization of conflicts with adjacent land uses and the protection of lands best suited for residential development from use by incompatible or unrelated development.

4) To establish recommended residential density standards based on the physical condition of the site, such as topography, soil capabilities, flood hazards and availability of utility services.

5) To support a policy of providing adequate housing for the community's low-income, handicapped and elderly.

6) To encourage and expedite the provision of housing to meet the immediate demands created by energy development.

Actions:

1) Promote infill development that capitalizes on existing infrastructure.

2) Inventory the existing housing stock for rehabilitation or demolition.

3) Conduct a housing needs assessment.

4) Encourage cluster and neo-traditional housing patterns in existing urban areas.

5) Consider options for developing county-owned property in an effort to provide affordable and diverse housing options.

6) Develop urban design guidelines that ensure proper site orientation and circulation.

7) Research and apply for grants that fund low-income housing projects.

| Residential and Housing Actions<br>Objectives | Action 1 Promote infill development to capitalize on existing infrastructure | Action 2 Inventory the existing housing stock for rehabilitation or demolition | Action 3 Conduct a housing needs assessment | Action 4 Encourage cluster and neo-traditional housing patterns | Action 5 Consider options for developing county-owned property in an effort to provide affordable housing options | Action 6 Develop urban design guidelines that ensure proper site orientation and circulation | Action 7 Research and apply for grants that fund low-income developments |
|---|---|---|---|---|---|---|---|
| Encourage properly planned residential developments with adequate water, sewer and other essential services | * | | * | | | * | |
| Encourage residential development that conserves energy and promotes efficiency and healthy environments | * | * | | * | | * | |
| Minimize land use conflicts and protect the most suitable residential lands from incompatible uses | | * | | | | * | |
| Establish residential densities based on physical condition of site | | * | * | * | | | |
| Support policies that provide for adequate low-income housing | | | | * | * | | * |
| Encourage and expedite the provision of housing to meet demand created by energy development | | | | * | * | | |

*Residential and Housing Objectives and Actions*

## Economy and Commerce

Sheridan County's previous population decline was significantly related to the agriculturally-oriented economy. Increasing farm sizes and mechanization left fewer people on the land which in turn left fewer people to support local services. The 18-24 age group who comprised the workforce were leaving for higher education and greater employment opportunities. However a recent influx of a new oilfield workforce may suggest a resurgent economy, providing employment opportunities and supporting commercial activity. The oil activity has stabilized the population decline and loss of services in our small towns.

With the depopulation of rural areas, the bulk of the County's population and commercial services have been consolidated in Plentywood. The concentration of services and employment in Plentywood has led to a substantial increase in the number of businesses and housing in recent years. This trend will probably continue as more rural residents are attracted to the increased availability of services and conveniences found in urban living.

Although an oil boom can shore up the area's economy, its duration is unpredictable. Ultimately the area economy will need to rely on agriculture and renewable resources, and the long-term success of the community may depend on its ability to provide increased employment and expanded business opportunities through agriculture.

Vision:

*The agricultural and mineral development segments of Sheridan County's economy are supported by protecting resources that sustain these activities and discouraging activities that permanently impair the land's productivity; the local businesses are supported by improvement projects that will strengthen the development of the downtown core; and all its businesses are located with adequate access, space, circulation, and are compatible with nearby activities.*

Goal:

To encourage diversity and balance in agricultural productivity as well as the general economy in order to provide a decent living for all residents while discouraging activity which is detrimental to the community environment.

Objectives:

1) To support the agricultural and mineral development segments of the economy by protecting the resources which support these activities, and to discourage activities which permanently impair the productivity of the land.

2) To assist local development agencies and businesses in their efforts to create new employment sources compatible with the community.

3) To encourage a higher level and greater diversity of local retail business services in order to keep more trade in the community.

4) To assist local businessmen with any projects or plans for improvement of services and to encourage the development of a strong central downtown area where the major commercial, governmental, and cultural activities are located.

5) Encourage business areas to be properly located with adequate land on which to operate, sufficient parking area and unloading space for goods, and an overall attractive appearance.

6) Encourage the proper design and development of commercial or industrial areas to reduce costs, promote efficiency, and to lessen any adverse effects of neighboring homes, businesses or other existing or planned uses.

7) Encourage local processing and marketing of the area's agricultural products in order to support the local agricultural economy and reduce consumer costs attributable to transportation and handling.

Actions:

1) Identify and assess the most and least productive agricultural areas.

2) Target capital improvements for areas identified as desirable for growth.

3) Support entrepreneur training programs.

4) Promote affordable housing for the retail and service sector workforce.

5) Partner with landowners and the public and private sectors to support local retail.

6) Encourage the creation of guidelines that regulate business district design standards.

7) Apply for USDA grants that fund local agricultural production such as Specialty Crop Block Grants and Farmers Market Production Programs.

## Economy and Commerce Actions

| Objectives | Action 1 Identify and assess the most and least productive agricultural areas | Action 2 Target capital improvements in areas identified as desirable for growth | Action 3 Support entrepreneur training programs | Action 4 Promote affordable housing for the retail and service sector workforce | Action 5 Partner with landowners and the public and private sectors to support local retail | Action 6 Encourage the creation of guidelines that regulate business district design standards | Action 7 Apply for grants that fund local agricultural production such as Specialty Crop Block Grants and FMPPs |
|---|---|---|---|---|---|---|---|
| Protect resources that support agriculture and mineral development; discourage activities that permanently impair the land | * | | | | | | |
| Assist the creation of new employment sources | | * | * | * | | | |
| Encourage greater diversity of local retail | | | * | * | * | | |
| Assist businesses that plan to improve services that strengthen downtown area | | | | | * | | |
| Encourage and assist the locating of businesses with proper site design | | | | | | * | |
| Encourage efficient and compatible commercial and industrial development | | * | | * | | * | |
| Encourage local processing and marketing of the area's agricultural products | | | * | | | | * |

*Economy and Commerce Objectives and Actions*

## Transportation

Transportation is the basic facility which supports the agricultural and resource extraction economy of the county. Along with communications, transportation also provides Sheridan County's access to the outside world. Transportation facilities supported and maintained by government includes roads, highways, streets and alleys, and airports.

With oil development and increasing agricultural production the use of roads and highways has increased in Sheridan County. Much of the road and highway system is substandard for today's traffic needs and requires increased maintenance and repair. The Montana Highway Department has scheduled reconstruction of a good portion of the substandard highway in the county and funding for the county road department has been increased to meet the increasing demand for road maintenance and improvements.

Much of the concern with transportation in our area centers around the shipment of grain and the manipulation of freight rates, methods of shipping and heavy vehicle traffic. Local government can exert little influence over these regional problems other than to encourage and support local producers' efforts, and support the development of alternate shipping methods such as a Missouri River barge system.

As the costs of transportation rise, the need for providing public transportation will increase. In our sparsely populated area private transportation is the primary means of travel but improvements in routing public transportation to connect with regional systems would improve this service.

Vision:

*The roads and street network, including those through Sheridan County's rural areas, are sufficiently maintained, safe, and efficient; streets through new developments are planned to accommodate future growth; and the county's local roads are protected from the impacts of heavy vehicle traffic.*

Goal:

To encourage and support the improvement of transportation facilities in Sheridan County, to see that residents and visitors have safe, efficient transportation, and to help plan for adequate highway, street, rail, and air services.

Objectives:

1) To keep all roads up to acceptable standards of safety and convenience for traffic flow and maintenance.

2) To mitigate local damage and distractions associated with increase oilfield truck traffic.

3) To encourage the continued use and improvement of existing rail services.

4) To support present and future needs of air transportation in Sheridan County, especially in regard to air freight and passenger service potentials.

5) To encourage the orderly development of highway and street systems to match the community's growth and need for these facilities.

6) To support alternate and price competitive forms of shipping grain and other agricultural products.

Actions:

1) Encourage public/private partnerships that result in development paying fair share of off-site improvements.

2) Require all new developments to pave gravel access thoroughfares or to provide a dust management plan.

3) Incorporate road infrastructure capacity into land use decision making.

4) Inventory and assess county roads.

5) Develop a Capital Improvements Plan and schedule to reflect road assessments.

6) Perform case studies and policy research regarding river and waterways grain transport systems.

7) Coordinate with landowners, rail and airport operators, and local governments to discuss future plans and policies.

| Transportation Actions / Objectives | Keep all roads up to acceptable safety, flow, and maintenance standards | Mitigate damage and distractions associated with increased oilfield truck traffic | Encourage continued use and improvement of rail service | Support air transportation | Encourage the orderly future development of street transportation network | Support alternative forms of grain shipment |
|---|---|---|---|---|---|---|
| Action 1 Encourage public/private partnerships that result in development paying fair share of off-site improvements | * | | | | * | |
| Action 2 Require all new developments to pave gravel roads or provide dust management plans | * | * | | | * | |
| Action 3 Incorporate road infrastructure capacity into land use decision making | * | | | | * | |
| Action 4 Inventory and assess county roads | * | | | | * | |
| Action 5 Develop a Capital Improvements Plan and schedule | * | | | | * | |
| Action 6 Perform case studies and policy research regarding river and waterways grain transport systems | | | | | | * |
| Action 7 Coordinate with landowners, rail and airport operators, and local governments to discuss future plans and policies | | | * | * | | |

*Transportation Objectives and Actions*

## Public Facilities and Services

With the increase in economic activity, the use of public facilities has increased. The costs of operating and maintaining public facilities have also risen with the increased use and factors of inflation. Many of the area's public facilities are outdated or not adequate to meet increasing demands and local governments are just beginning to take advantage of the increased revenues in upgrading public facilities. Most of the local government's facilities and services are supported by property taxes, and recent increases in taxable valuation due to oil development have helped ease the tax burdens on school districts and the county. Municipal governments have benefited from the oil severance payments based on population but property tax levels in town have not benefited directly from oil development.

Utility services provided by local governments include sewer, water, and garbage disposal. Other utility services provided by private or semi-public organizations include telephone, electricity, and fuel delivery services.

Although Sheridan County has not had an increase in population or housing numbers, rising standards of living, and increasing dependence on technology make utility services necessities for many people and no longer just conveniences.

The presence of utility systems such as sewer and water in many cases makes the difference between growth or decline for a small community. Some of Sheridan County's unincorporated towns lack the conveniences of public sewer and water, and every effort should be made to support the residents of these communities in their efforts to have basic services.

In the past, sewer and water services in the incorporated towns have been taxed by the increase in housing and population due to the oil boom. These towns need to expand service capacities to meet increased demand while taking care not to undertake expensive long-term projects to meet the temporary demands created by the oil boom.

Vision:

> *Sheridan County's public buildings, facilities, and services meet the demands of all county residents, and are continually evaluated and improved as the population and economy changes.*

Goal:

To provide for the social, cultural, and public service needs of the community at a reasonable cost to the taxpayer.

Objectives:

1) Encourage the planning of community services providing for the most services of adequate quality for the least amount of funds.

2) To assist in planning for adequate educational facilities within the county and to encourage progressive approaches in providing public education.

3) To provide strategically located, adequately designed and attractive community facilities.

4) To provide adequate facilities to maintain necessary and efficient levels of fire and police protection.

5) To require developers to install basic utility systems prior to the development taking place, with adequate provisions being made for future development.

6) To provide for the collection, treatment, and disposal of wastes in a safe, efficient, economical and nuisance-free manner.

7) To require the installation of underground utilities where practical to enhance the visual appearance of new developments.

8) To encourage community participation in local government decision-making to ensure that government is responsive to the needs of the community.

9) To discourage unnecessary regulation and unproductive procedures which do not apply to local conditions or needs.

Actions:

1) Work with school districts to identify enrollment and capital construction issues.

2) Encourage community partnerships.

3) Expand technological resources and education.

4) Develop design standards for new construction.

5) Research the feasibility of impact fees on new development.

6) Streamline permitting and design review and promote communication by removing redundant language from planning and zoning regulations.

| Public Facilities Actions<br>Objectives | Action 1<br>Work with school districts to identify enrollment and capital construction issues | Action 2<br>Encourage community partnerships | Action 3<br>Expand technological resources and education | Action 4<br>Develop capital improvement schedule | Action 5<br>Develop design standards for new construction | Action 6<br>Utilize impact fees on new development | Action 7<br>Streamline permitting and design review and promote communication by removing redundant language from planning and zoning code |
|---|---|---|---|---|---|---|---|
| Encourage the most services of adequate quality for the least cost | * | | | | | | |
| Assist planning for adequate educational facilities and encourage progressive teaching approaches | * | | * | * | | | |
| Provide strategically located, adequately designed and attractive community facilities | | * | | | * | | |
| Provide adequate facilities to maintain efficient levels of fire and police protection | | * | | * | | | |
| Require developers to install basic utility systems prior to the development with provisions for future growth | | | | | | * | |
| Provide for safe and efficient waste collection, treatment, and disposal | | | | * | * | | |
| Require underground utility installation in new developments | | | | | * | * | |
| Encourage community participation in local government decision-making | | * | * | | | | |
| Discourage unnecessary regulation and unproductive procedures | | | | | | | * |

*Public Facilities Objectives and Actions*

## Parks and Recreation

In tandem with an increase in demand for public facilities and services, there is an increase in the use of community parks and public open spaces for recreational purposes. The county's existing recreational facilities, while admirable, are less abundant than desired by county citizens, particularly in urban areas.

Citizens expressed a need for new playgrounds, recreational equipment, and sport courts. Further, uncontrolled dogs were an issue that would be mitigated by dedicating land for dog parks

Vision:

> *Sheridan County harbors an active, healthy, and pleasant lifestyle through its parks, preserved natural open spaces, and cohesive network of recreational facilities.*

Goal:

To provide for an abundance and diversity of recreational needs in order to promote the general physical and mental well-being of the community.

Objectives:

1) To preserve or enhance existing recreational facilities, provide for future needs and encourage developments in areas around those facilities to be compatible with recreational uses.

2) To provide a park and recreation system that includes a diversity of facilities and that will please a greater number of people.

3) To encourage the development of year-round recreational facilities.

4) To support the development of facilities which will promote the tourist and recreational economy of county.

5) To encourage cooperation between private property owners and the general public while recognizing the need to conserve and protect the natural environment.

Actions:

1) Consider the formation of a county parks board and district to manage and expand recreational resources.

2) Utilize land use controls to limit development on parkland or open space.

3) Perform a recreational facilities assessment including public surveys for parks, public open space, or playgrounds.

4) Explore strategies to develop parkland in unconventional or underutilized areas.

5) Explore the adoption of a parkland fee for new development.

6) Develop a unified trail system in and near communities.

## Parks and Recreation Actions

| Objectives | Action 1 Consider the formation of a county parks board and district to promote and manage recreational resources | Action 2 Utilize land use controls to limit development on parkland or open space | Action 3 Perform a recreational facilities assessment including public surveys for parks, public open space, or playgrounds | Action 4 Explore strategies to develop parkland in unconventional or underutilized areas | Action 5 Explore the adoption of a parkland fee for new development | Action 6 Develop a unified trails system in and near communities |
|---|---|---|---|---|---|---|
| Preserve and enhance existing recreational facilities | * | * | * | * | * | * |
| Provide a diverse and versatile parks and recreation system | * | | * | * | * | * |
| Encourage the development of year-round recreational facilities | * | | * | * | | * |
| Support development of facilities that wil promote tourism and recreational economy | * | * | | | * | * |
| Encourage private and general public cooperation to conserve the natural environment | * | * | | | * | |

*Parks and Recreation Objectives and Actions*

## Natural Resources

Sheridan County's natural resources consist of large amounts of underground mineral wealth as well as the soil, water, air, and other natural systems. The county's natural resources serve as the basis for the area's economy. The soil resources and climate support the county's impressive agricultural production and the economic benefits derived from oil production have been quite noticeable in recent years. Mineral deposits of coal and potash have the potential for large scale development and impact on the community. The development of coal-fired power plants and mines across the border in Canada also has the potential to degrade the area's air and water quality. While mineral production has generated a great deal of wealth and economic prosperity in Sheridan County, it is not a renewable resource, and the mineral reserves will eventually become depleted with continued production. Soil, water, air and the natural systems are the renewable resources which support our agricultural economy and way of life. Although mineral production is important to the county's economy, every effort should be taken to insure that the area's environmental quality remains unaltered by resource development and that maintaining natural renewable resources receives first consideration in decisions which affect the environment.

The rising costs and increasing scarcity of resources has made resource conservation an important issue. As world competition for resources increases, Sheridan County will need to depend more on values of conservation and durability, and the development of renewable energy sources such as solar heating, wind power and organically derived fuels.

Vision:

*Sheridan County's air and water are of the highest quality, are abundant, and are protected through sustainable development policies; the county's preserved areas have thriving wildlife; and its policies strive to provide additional support for renewable energy production.*

Goal:

To encourage the development and best use of our natural resources, while preserving agricultural productivity and protecting the community environment.

Objectives:

1) To endeavor to maintain the high environmental quality of the county and to encourage measures which will minimize air and water pollution.

2) To promote the conservation of our natural resources and to encourage energy self-sufficiency through the development of alternatives and renewable energy sources.

3) To encourage the development of natural resources which will have the least detrimental effect to agricultural productivity.

4) To promote agricultural productivity and diversity through the prudent development of irrigation systems.

5) To encourage county and municipal governments to anticipate impacts from resource development in order to reduce adverse social and economic effects.

Actions:

1) Encourage and support conservation easements by providing information to landowners; inform developers of easement locations.

2) Identify and assess agricultural production hotspots.

3) Explore utilizing alternative energy sources on public buildings.

4) Apply for Department of Energy EECBG funds to promote alternative energy development.

5) Research case studies in irrigation and cite best practices.

| Natural Resources Actions<br>Objectives | Action 1 Encourage and support conservation easements by providing information to landowners; inform developers of easement locations | Action 2 Identify and assess agricultural production hotspots | Action 3 Explore utilizing alternative energy sources on public buildings | Action 4 Apply for Dept. of Energy EECBG funds to promote alternative energy development | Action 5 Research case studies in irrigation and cite best practices |
|---|---|---|---|---|---|
| Maintain the high environmental quality of the county | * | | | * | |
| Promote the conservation of our natural resources and to encourage energy self-sufficiency | * | | * | * | |
| Encourage the development of natural resources that are the least detrimental to agricultural productivity | | * | | * | * |
| Promote agricultural productivity and diversity through prudent development of irrigation systems | | * | | * | * |
| Encourage county and municipal governments to anticipate impacts from resource development | * | | | * | |

*Natural Resources Objectives and Actions*

## Coordination and Implementation Plan and Timeline

The Implementation Plan table below and on the opposite page estimates the time until completion of corresponding implementation actions or policies on the left.

The Estimated Time of Completion is a target year for fulfilling the listed action. Some implementation actions may be simple short-term tasks and some may be ongoing efforts lasting several years. Entities listed in the Agency or Organization Coordination column are suggestions for which combination of entities would most efficiently implement the action, based on current information.

*Implementation Plan Table*

| Implementation Actions | Estimated Time of Completion | Agency or Organization Coordination |
|---|---|---|
| **Land Use** | | |
| Inventory/asses high productivity loss or soil erosion hazard areas | 2015 | County, State, Federal |
| Plant and maintain soil stabilizing crops | Ongoing | County, State |
| Inventory natural and environmental amenities | 2015 | County |
| Map areas with adequate facilities and services for future growth | 2013 | Planning |
| Encourage landowners to participate in the development process | 2013 | Planning |
| Perform a Capital Improvements Plan | 2013 | Planning, Engineer |
| Develop a limits of annexation map | 2013 | Planning |
| Adopt a permit system/assess feasibility of county-wide zoning | 2020 | County |
| | | |
| **Residential Development and Housing** | | |
| Promote infill development | Ongoing | Planning, Cities |
| Inventory existing housing stock | 2015 | Planning, Cities, Engineer |
| Conduct a housing needs assessment | 2015 | Planning, Cities, Engineer |
| Encourage cluster and neotraditional development patterns | Ongoing | Planning |
| Consider developing housing on county-owned property | 2013 | Planning, County, Cities |
| Develop urban design guidelines | 2015 | Planning |
| Apply for low-income housing grants | Ongoing | All Public Entities |
| | | |
| **Economy and Commerce** | | |
| Identify most and least productive agricultural areas | 2015 | County, State, Federal |
| Target capital improvements toward growth areas | Ongoing | Cities, County, Chamber of Commerce |
| Support local entrepreneurs | Ongoing | Cities, County, Chamber of Commerce |
| Promote affordable housing for retail and service sector workforce | Ongoing | County, Cities, State, Federal |
| Form partnerships to support local retail | Ongoing | Cities, County, Chamber of Commerce |
| | | |
| Encourage design guidelines to regulate business district standards | 2015 | Planning, Cities |
| Apply for grants that support local agricultural production | Ongoing | County, State, Federal |

| Implementation Actions | Estimated Time of Completion | Agency or Organization Coordination |
|---|---|---|
| **Transportation** | | |
| Encourage partnerships to support developer payments for off-site improvements | 2015 | All Entities |
| Require new development to pave adjacent gravel roads or to provide dust management plans | 2013 | Planning, Road Dept |
| Incorporate road infrastructure capacity into land use decision making | Ongoing | County, MDT |
| Inventory and assess county roads | 2015 | Planning, Road Dept |
| Develop a CIP to schedule and prioritize road projects | 2015 | Planning, Road Dept, MDT |
| Perform case studies regarding waterways grain transport systems | 2020 | County, State, Federal |
| Coordinate with all stakeholders to discuss future plans and policies | 2013 | County, Cities, State, Federal |
| | | |
| **Public Facilities and Services** | | |
| Work with schools to identify enrollment and capital construction issues | 2015 | Planning, Engineer, School District |
| Encourage community partnerships | 2013 | All Entities |
| Expand technological resources and education | Ongoing | County, Engineer, School District |
| Develop design standards for new construction | 2015 | Planning, Engineer |
| Research the feasibility of impact fees on new development | 2013 | Planning, Engineer |
| Streamline permitting and design review and promote communication by removing redundant language from planning and zoning regulations | Ongoing | Planning |
| **Parks and Recreation** | | |
| Consider the formation of a parks board and district to promote and manage recreation resources. | 2015 | County |
| Utilize land use controls to limit development on parkland or open space | 2020 | Planning, Cities |
| Perform a recreational facilities assessment including public surveys for parks, public open space, or playgrounds | 2015 | County, Cities, Engineer |
| Explore strategies to develop parkland in unconventional or underutilized areas | Ongoing | Planning, Cities |
| Explore the adoption of a parkland fee for new development | 2015 | County, Cities |
| Develop a unified trail system in and near communities | 2020 | Planning, Cities, Engineer |
| | | |
| **Natural Resources** | | |
| Encourage conservation easements where applicable | Ongoing | County |
| Identify and assess agricultural production hotspots | Ongoing | County, Cities, Federal |
| Explore utilizing alternative energy sources on public buildings | 2020 | All Public Entities, USGBC |
| Apply for DOE funds to promote alternative energy development | 2015 | All Public Entities |
| Research case studies in irrigation and cite best practices | Ongoing | Planning |

# Part II: Future Land Use

The primary purpose of the growth policy is to address problems concerning land use and to provide solutions in the form of policy recommendations to local government. The land use portion of this chapter is intended (and required) to provide a basis for developing land-use regulations in Sheridan County. It also contains recommendations for the use of land surrounding the City of Plentywood should those areas be developed for urban use.

Until 100 years ago, Sheridan County was part of a balanced grassland ecosystem seasonally occupied by nomadic Indians following the great buffalo herds. It has been 100 years since the land was surveyed into grids, homesteaded and most of it broken up for farming, and the existing land use patterns established. Today, 68% of the land in Sheridan County is under cultivation, 30% is rangeland use and the remainder is used for roads, urban use and federal wildlife protection areas.

Given the changes taking place in society, technology and the economy it is difficult to anticipate future land use trends. Advanced technology frees greater amounts of human labor leading to increasing demands for recreation and the conveniences of urban living. Our economy, based on the commodity production of raw materials, demands that increasing production and efficiency be squeezed from the land. Whatever course future change takes, care must be taken that the needs of the land itself and the values of good stewardship are not overlooked in the pursuit of prosperity.

## Land Use Policy

While most of the land in Sheridan County is used for agriculture, planning in this case is primarily concerned with urban growth and its effects on the community and existing land uses. Although some agricultural producers have abused the land through poor cultivation or grazing practices, it is thought that these problems would be best dealt with through education and existing agencies or programs that work directly with agriculture such as the Soil Conservation Service and County Extension Program.

The primary concern of the growth policy is to seek a means of promoting orderly urban growth and development in Sheridan County, while at the same time recognizing the strong values placed on the right of personal property ownership. Land use controls are not a conspiracy to gain government control of individual property rights nor should they be a tool for social molding. Their primary purpose is to protect land owners from poorly planned, incompatible development and to provide for the orderly growth of urban areas. As it is now, growth and development, outside incorporated towns, can occur without regard to its effects on neighboring property or the community in general. In most cases community growth in our area occurs with one development at a time, and if there is no general outline or framework for urban expansion, the end result can be a jumble of conflicting land uses without through streets and with difficulties in providing public services.

The main problems with unplanned growth include conflicts with adjacent uses, inadequate access, creation of traffic hazards, and urban sprawl or highway strip development which increases the costs and difficulties in providing or extending public services such as streets, sewer, water, garbage collection, mail delivery, fire protection, school bus routes, and utility services. Many state regulations have been created to correct the problems of poorly planned development and they set guidelines for specific types of development. Subdivision regulations generally cover lot size and arrangement, street design and improvements in the development of subdivisions when two or more lots of less

than 20 acres each are created. Health department regulations require local or state approval of water supply, sewage disposal and solid waste collection for new subdivided parcels under 20 acres in size. The highway department requires approval of all new approaches onto state highways. These regulations provide a piecemeal approach to planned growth and generally do not deal with community growth from a comprehensive viewpoint. This variety of regulation is, at best, confusing to the average developer or homebuilder, and any local regulations dealing with growth should be designed to coordinate the various agency requirements, and to assist developers in providing the required information and "cutting through red tape".

The development which can be expected to occur in Sheridan County is fairly limited as to the types and amount of development, and each development is generally unique in its characteristics as is the site on which it is located. Any guidelines or rules affecting development should be flexible enough to deal with each situation individually while providing some degree of protection for neighboring property owners and the community in general.

In rural areas, the primary problem occurring with new development is that it may conflict with existing agricultural or residential land uses. Zoning is not practical for Sheridan County's sparsely populated areas, yet some type of protection is needed for existing uses to insure that water supplies will not be polluted or that new development will not create some type of nuisance which interferes with the existing uses of adjacent land. The most practical way to provide land use protection in rural areas is through setting basic standards for new development and giving adjacent landowners an opportunity to express their views of developments which might affect their business operations or residences.

In the undeveloped lands surrounding urban areas the primary concern is that new development agree with the existing land uses inside the incorporated area and that the new developments fit into an extended framework for public services, those being primarily streets and sewer and water service lines.

## Urban Growth Management

Urban areas in the county experiencing a degree of growth are Plentywood, Medicine Lake, and Westby. Population numbers in Medicine Lake and Westby are expected to have increased since the 2010 census, however the numbers are difficult to estimate. The Plentywood area is currently the only place where growth may expand the city's boundaries and the area which may require some type of development framework to allow for orderly expansion of the city.

The Town of Westby has some vacant lots remaining within its boundaries and the town would probably need major development in that area for it to consider expanding its city limits. The Town of Medicine Lake has few remaining vacant lots. However, the expansion of the city limits and incorporating any new growth would add additional demands on the town's sewer and water services which are currently operating near their maximum capacities. The growth in Medicine Lake and Westby is seen as dependent on continued oil activity, whereas in Plentywood the growth is in more permanent housing and services.

Around Plentywood, designating areas for land uses such as residential, commercial and industrial will provide for the orderly expansion of the city and insure that incompatible uses will not occur in areas which will conflict with the existing uses in the city and the most desirable future uses of the area.

As the situation exists, the City of Plentywood does not have a sufficient number of newly platted undeveloped lots to meet permanent residential housing needs. Additionally, the demand for commercial, industrial, and larger sized residential tracts may continue to add a limited amount of acreage and service demands to the City of Plentywood.

## Factors Limiting Development

In planning for new growth a number of factors must be considered; primarily the suitability of the land for the type of development, existing and adjacent land uses (including city zoning), and the availability or suitability for providing access or services.

### Natural Limits

Limitation of the land itself may include steep slopes, flooding, high water tables or unstable soil conditions which may present difficulties in construction or use. These factors in themselves do not necessarily preclude development but may require additional measures to overcome the natural limitations. Areas around Plentywood are characterized by rough terrain, and steep slopes generally reduce the number of available building sites and may present problems in safe construction and providing adequate access. Areas subject to flooding are generally unsuitable for development mainly because of the property damage that results from flooding or because of the damage that may be caused to other property by impeding the flow of flood waters. Locations with high water tables are generally not suitable for any developments with septic tanks and drain-fields due to the inability to properly dispose of sewage effluent. Such areas may, however, be suitable for uses such as industrial storage or other uses which do not need sewage

disposal systems. Unstable soil conditions are generally found in association with steep slopes, flooding, or high water tables and include conditions such as slippage, frost heaving, or high shrink-swell which would add further problems to the development's construction or habitability.

**Compatibility**

Existing and adjacent land use is a factor in limiting development only insofar as the proposed use conflicts with other uses. Home occupations, some forms of business and light industry may not be incompatible with residential, recreational and public uses of land if there are no adverse (nuisance) conditions created, or if these conditions can be mitigated by screening or fencing, set-back requirements, adequate parking space, etc. Therefore, zoning is recommended. However, not all conflicts in use can be mitigated and certain areas should be designated for specific uses based on the location in relation to other uses, availability of public services and access, and land character.

**Access and Circulation**

The availability of access may also be a factor which limits development. Of primary concern is providing adequate access to new development and in giving consideration to the needs of future growth. A problem commonly found in strip developments along highways is that no provision is made to provide access to the areas behind the strip along the highway. Other access problems may include right-of-ways that are too narrow for the future installation of streets or that are on grades too steep for safety. Approaches onto public roads may create traffic hazards if they have obstructions to view or are located on curves or hills. Developments that have dead-end streets, tight curves or narrow right-of-ways may also create problems for traffic safety and in providing delivery or collection services. Access for new development through existing residential areas or by schools and playgrounds should also be taken into consideration, particularly if there will be heavy traffic generated.

**Provision of Services**

Limitation of the availability of services or an inability to provide services such as sewer, water, or garbage collection may prevent development or reduce the scope of development. Development in low-lying areas may require a lift station to tie into public sewer, and development at higher elevations may require pressure pumps to receive water from a public system. In these cases the development will have to be large enough to warrant the expense of installing pumping systems. Otherwise, the development will need to install private systems in which case the density of development will be limited by the space requirements needed for individual sewer and water systems. The installation of private wells and septic systems around an urban area is not desirable due to the increased potential for contamination of local groundwater supplies. The location and capacities of city water and sewer lines as well as the overall system capacities also has an effect on new development which proposes to hook into public utility services. New developments should be located in areas where service lines have adequate capacity to carry the increased loads.

## Recommended Future Land Use: Plentywood

The Plentywood Future Land Use Map exhibits projected uses and corresponding target growth extents. These recommendations are based on existing growth trends, compatibility with current zoning, the suitability of the land for development, and the availability of services.

Map overlays depicting existing land use, city zoning and soil capabilities which are the basis for determining the recommended land uses are available for public inspection at the planning office in the Sheridan County Courthouse, Plentywood, Montana.

Because of the possibility for substantial growth around Plentywood, it is recommended that landowners be allowed to develop their property as they choose provided that the new use will not present an obvious conflict with the designated use and future city expansion. It is recommended that each development be considered on its merits with requirements imposed as needed to insure site suitability, compatibility with existing or designated uses, traffic safety and public access, and an adequate provision of public services.

Development in the short term is generally recommended for land contiguous to the city with no physical restrictions and adequate public infrastructure (see Part III for maps of the city's water and sewer systems). Uses for the long term (5-15 years) are generally recommended in more peripheral areas that could accommodate development once nearby land is occupied, or where certain conditions exist that could prolong the use of that land. Uses occurring in the long-term are also generally recommended on land that is further from current development activity. No changes in land use are recommended for areas very far from the corporate boundary, for areas that would require substantial remediation, or in floodplains or unsuitably steep or unstable slopes.

### Residential

Those areas recommended for residential uses are located north, northeast, and south of the City of Plentywood. The areas designated for residential uses to the north are on flat terrain

and stable soils north of the golf course. Much of this is rough terrain, thus residential or other uses may require a lower density of development in order to find suitable building sites.

Directly north of the golf course is a parcel of county- and city-owned land that is suitable for residential development. The county should consider developing this area to potentially provide housing for education, medical, and public sector workers.

## Highway Commercial

In the five-year term, highway commercial uses are ideal for county- and privately-owned parcels along the Highway 16 corridor near the east entrance to Plentywood.

## Light Industrial

Areas designated for light industrial use are located west and southeast of Plentywood. These areas are adjacent to similarly-zoned industrial areas within the city and are where rail service could be made available if needed. Areas to the west have existing light industrial businesses located along the railway and highway corridors. Light industrial areas to the southeast currently contain farmsteads and a confined feeding operation. It is assumed that light industrial uses are more compatible with those existing uses than residential. Industrial uses geographically correspond to a proposed truck bypass route, which could potentially stimulate industrial activity as the route would accommodate heavy equipment movement and storage in areas south of town.

It is also recommended that light industrial uses locate south of Plentywood in order to preserve prime commercial land along the Highway 16 and Highway 5 corridors. It is known that highway corridor areas near a city's gateway are absorbed by industrial uses related to oil development during a boom, and it is recommended that land use controls be used to conserve such lands for more appropriate uses over the long term.

## No Change in Use

Those areas where no change in use is recommended are located on floodplains or similarly unsuitable lands, or are public lands used for recreation, cemeteries or fairgrounds. Because such areas may harbor development over a 25-50 year planning horizon, it is recommended that they be reconsidered for suitable uses in subsequent updates to this growth policy.

Development of the flood plain should be allowed only when it can be shown that property damage will not result or that sewage disposal will not be a problem due to flooding or high groundwater levels.

Due to the large amount of public lands found around the city, some of this land may eventually be needed for development; however, these public lands currently do not present obstacles to the city growth.

## Public Facilities: Sher-wood Airport

The largest single use in the county besides agriculture is the large parcel owned and operated by the Sheridan County Airport Board. The airport is commonly used for medical purposes, and with growth it is expected that larger and faster private aircraft will utilize this facility. It is recommended that the County consider instituting airport zoning to ensure future allocation of federal funding for capital improvements to expand air transportation as needed.

## General Commercial and Industrial

An area to the northwest entrance bounded by Highway 5 to the south and steep slopes to the north is recommended for General Commercial and Industrial uses. The intent is to provide a place for appropriate and flexible manufacturing or office uses at the city periphery.

## Soil Suitability

Several areas surrounding Plentywood are known to have soil conditions that create a hazard to development. See the "Unsuitable Soils Map" in Part III for a geographic description.

## Utility Services

Adequate sewer and water services are a primary concern when considering city growth. A sewer system study conducted in 2010 indicates that with minor improvements, the Plentywood sewer system could handle a population increase of 1,000 people and serve the anticipated growth areas north and east of the city. Plentywood's water supply system has adequate storage for continued growth, however, growth north of the city would require mechanical boosting stations to provide adequate pressure. The protection of the city's water supply is of primary importance, and development which occurs southeast of Plentywood should be allowed only if it can be shown that it will not contaminate or reduce the city's water supply.

## Street and Access

Making provisions for streets and adequate access for development is one of the principle reasons for developing a plan for city growth. Much of the undeveloped land north and east of the city contains steep slopes which limit the available sites for adequate street grades. Development along Highway 16 east had not provided access to the areas in back which are designated for residential use. It is recommended that future development in this area allow for streets where the grade is suitable. It is also

recommended that a road be built across the east end of the fairground property to provide easy highway access for existing development on the south side of Plentywood and to serve areas designated for future residential and light industrial use.

### Land Uses Within the City of Plentywood

There are eight general land use classifications in place within city boundaries, including three residential classes (Light Residential, Medium Residential, Mobile Home), two commercial classes (Neighborhood Commercial and Central Commercial), a Light Industrial class, a Public Facilities class and an Open Space class.

Most of Plentywood's land is occupied by Residential uses, specifically Single Family dwellings. Open Space would occupy roughly 13 percent, followed by Light Industrial uses at about 12 percent and Commercial at nine percent. Public Facilities, including the Courthouse and public schools, would occupy roughly seven percent of land within the city.

Neighborhood Commercial uses are located along the First Avenue Corridor generally between the Highway 16 junction to the north and Monroe Street to the south. Examples of this classification are convenience or grocery stores, locally-owned small businesses, cafes and professional agencies. The logical extension of Neighborhood Commercial uses follow the Highway 16 corridor east near Plentywood's eastern gateway. Central Commercial uses are concentrated in the area bound by Third Avenue to north, Jackson Street to east, Railroad Avenue to south and Jefferson Street to west. This can be defined as the central business area. Typical land uses are similar to those found in Neighborhood Commercial areas, but with a higher concentration of retail storefronts. Due to existing building stock and orientation, the Downtown Commercial area presents opportunities for intensified use by promoting upper floor uses such as apartment housing. This type of development is historical and in agreement with the land use objectives in this document.

The existing city zoning regulations designate over 50 percent of land for housing. Although 78 percent of residential land is zoned R-2 (medium density), single family housing is the more prevalent house form. These regulations allow more density than the existing building stock exhibits. To conform with future housing trends, such a regulatory pattern should be reevaluated in subsequent updates of this growth policy.

## Recommended Future Land Use: Medicine Lake

Due to the an extensive 100-year flood event hazard area created by the drainage of Big Muddy Creek, a large portion of the growth area surrounding the Town of Medicine Lake is generally unsuitable for development. The western part of town that affronts Little Muddy Creek is designated a type AE zone by the Federal Emergency Management Agency National Flood Insurance Program Surveys, which is defined as "...subject to inundation by the 1-percent-annual-chance flood event," or in other words a 100-year floodplain with average ponding depths of one to three feet.

### Residential

Areas recommended for future residential growth are located to the east of the town on land once occupied by the airfield. The physical suitability of the land and the ease in which the street network and other public infrastructure may be logically extended make this area ideal for housing.

### Public Facilities

A large parcel immediately to the south is noted to have potential for accommodating future wastewater disposal facilities or other public uses. In the short-term, the town would potentially utilize this field and pivot irrigation equipment to broadcast wastewater. In the long-term, the site may have additional uses, however residential or commercial activities would require environmental remediation.

### Highway Commercial

Areas to the north of town along Highway 16 are suitable for a variety of highway commercial uses due to high vehicle accessibility, visibility, and appropriate physical characteristics.

### General Commercial Industrial

East of Highway 16 at the south entrance to down is recommended for General Commercial and Industrial uses. This designation allows the jurisdiction flexibility in determining which highway-related uses are appropriate for this area.

### No Change in Use

The western and southern areas of the town are designated as having no change because of flood hazards and due to difficult slopes. Development is unlikely to occur here and would be encouraged in other areas described above. Most of the area recommended for no change within the one-mile growth area is currently productive agricultural lands. The policy recommendation is that this remains used for such activities.

### Land Uses Within the Town of Medicine Lake

Medicine Lake has seven general land use classifications within its boundaries: Commercial, Residential, Light Industrial, Public Facilities, Open Space, and Agriculture. The purpose of

designating land uses inside the town is to establish a base of knowledge for creating land use regulations at the appropriate time.

Residential uses continue to account for the largest percentage of total land at 29 percent. Agricultural uses, including farmsteads, grain elevators, and crop or grazing land occupy 25 percent, while Public Facilities including the K-12 school, church properties, and utility lands, occupy 20 percent. Light Industrial uses make up 11 percent while Commercial uses - largely concentrated near the First Avenue and Main Street intersection - occupy five percent. Vacant land accounts for about five percent and finally Open Space occupies about three percent of town land.

Commercial uses along Main Street include eateries, a hotel and small businesses. A large property is occupied by Sheridan Electric Cooperative near the east of town along Highway 16. There is an opportunity to expand commercial uses along the east Main Street corridor. There are many small agricultural properties along the Highway 16 corridor which may eventually develop into Commercial uses due to the benefits offered by highway visibility and accessibility.

Residential land use is comprised of single family homes and a limited amount of mobile home and RV housing. The City of Medicine Lake has established a moratorium on the expansion of temporary workforce housing units as of this writing.

It is important to distinguish between Agricultural, Vacant and Open Space classes: Agriculture is currently being used for those activities; vacant lands are lots or parcels once occupied for some use but are now empty or underused; and Open Space describes land associated with floodplains or recreational space .

## Recommended Future Land Use: Westby

There is a substantial amount of developable land within the corporate boundaries, thus the Westby Future Land Use Map recommends retaining the agricultural use of land within the one-mile extraterritorial area. The purpose is to promote development inside city limits where the land is physically and infrastructurally adequate for development. Further, the Montana-North Dakota state line restricts town expansion and public services from moving to the east. Considering most developers will prefer to utilize existing public infrastructure, it is recommended the town's long-term growth is focused toward the western boundary.

### General Commercial and Industrial

Areas adjacent to the corporate limits to the west of town are recommended for General Commercial and Industrial uses due to the physical suitability of the land and access to the road network. Activities related to oilfield development may be best located here.

### Highway Commercial

Areas along Highway 5 within a half-mile of the corporate limit is designated Highway Commercial for its access to highway and automobile related activities. The purpose of this designation is to encourage high revenue-producing uses that can cater to motorists such as lodging or eateries on land near the highway corridor.

### No Change in Use

Much of the land within one mile of the corporate limits is used for agricultural production, and the recommended policy is that these uses to continue. Additionally, this land may be less adequate for development due to lack of infrastructure or water lagoon obstructions. As stated, there are appropriate parcels of land inside the corporate boundaries that are more likely to be developed in the short term, thus most land outside of the city is designated for no change in use.

### Land Uses Within the Town of Westby

There are seven general land use classifications within the Town of Westby's corporate boundaries: Commercial, Residential, Light Industrial, Public Facilities, Open Space and Agriculture. This classification was created using a the existing use or business activity of structures on each property.

Almost three-quarters of Westby's land is used for agricultural purposes. The town has not grown into the area defined by its corporate boundaries, therefore most of its incorporated land is used for agricultural production. Residential uses are the next most prevalent, occupying 16 percent of area land. Single family houses characterize the town's residential areas. Additional multiple family development would be recommended. Commercial uses are distributed throughout Westby, with the area around City Hall being the central business area. There are opportunities to expand commercial land use along the Highway 5 corridor west of town. Commercial developments that promote economic diversity while catering to highway motorists, for example businesses like banks, lodging and retail, are encouraged here. Public Facilities and Light Industrial uses both occupy three percent of incorporated land. Open Space, including recreational space, occupies two percent.

Sources

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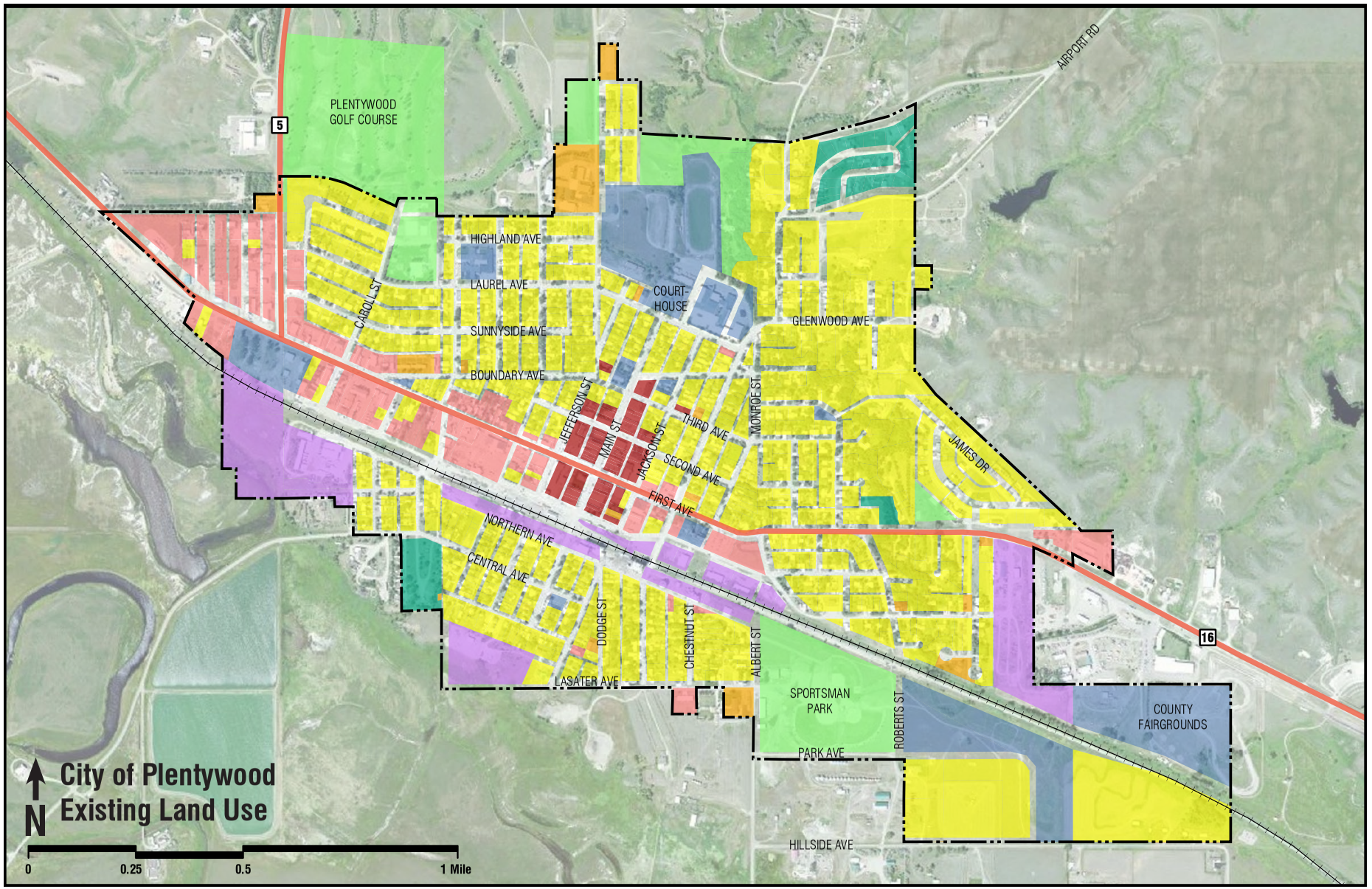
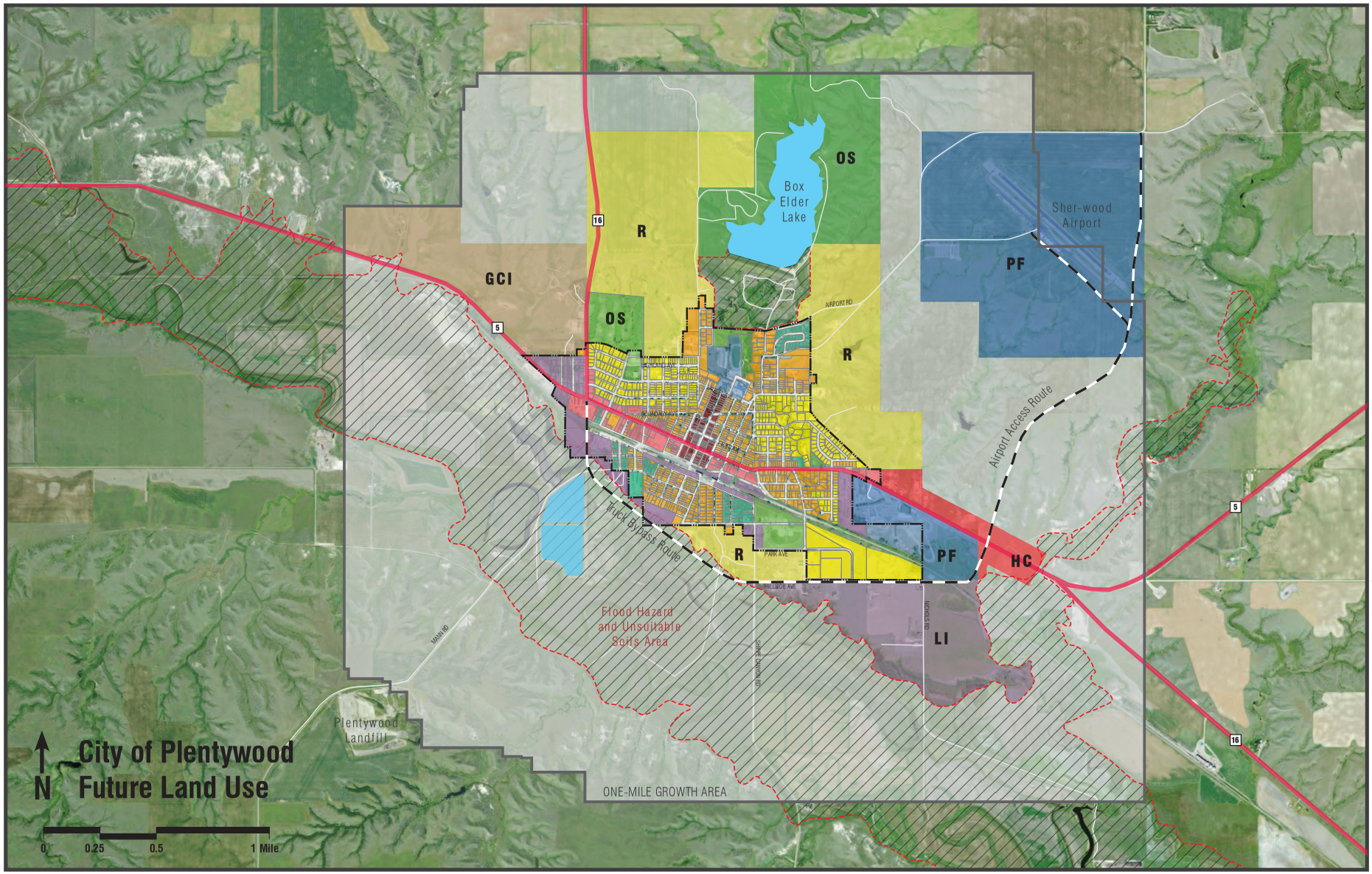
Montana Cadastral Database, http://svc.mt.gov/msl/mtcadastral/

U.S. Census TIGER/Line data, 2011

ESRI ArcGIS Resource Center, World Imagery basemap: http://resources.arcgis.com/content/local-government/basemaps


PLENTYWOOD GOLF COURSE
5
AIRPORT RD
HIGHLAND AVE
LAUREL AVE
SUNNYSIDE AVE
BOUNDARY AVE
CAROLL ST
COURT-HOUSE
GLENWOOD AVE
JEFFERSON ST
MAIN ST
JACKSON ST
MONROE ST
THIRD AVE
SECOND AVE
FIRST AVE
JAMES DR
NORTHERN AVE
CENTRAL AVE
DODGE ST
CHESTNUT ST
ALBERT ST
LASATER AVE
SPORTSMAN PARK
ROBERTS ST
COUNTY FAIRGROUNDS
PARK AVE
HILLSIDE AVE
16
City of Plentywood
Existing Land Use
N
0
0.25
0.5
1 Mile
Central Commercial
Commercial
Light Industrial
Light Residential
Open Space
Agriculture
Medium Residential
Mobile Homes
Public Facilities
Vacant
Railroad
State Highway

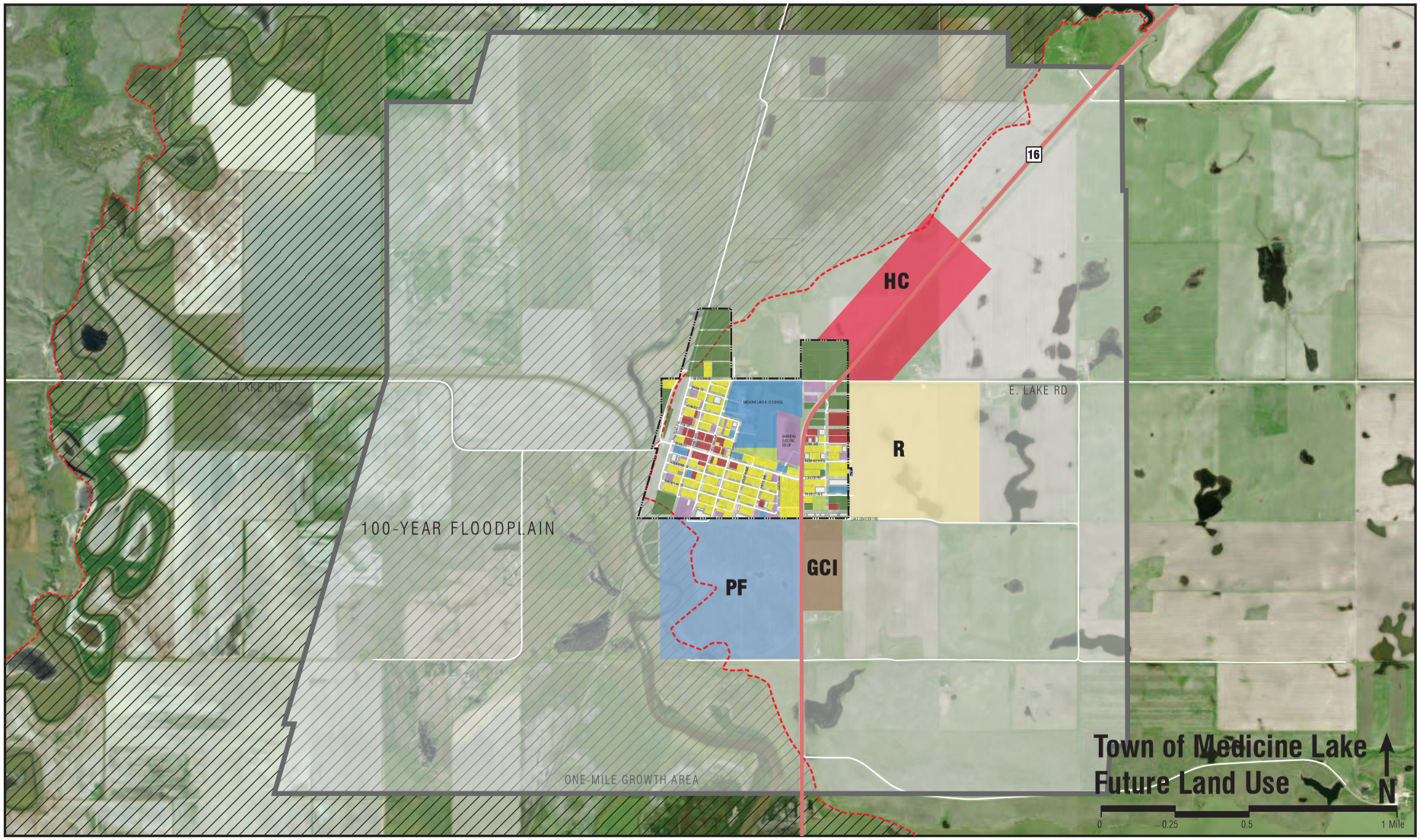



## Growth Area Land Use

- HC Highway Commercial
- GCI General Commercial/Industry
- PF Public Facilities
- R Residential
- LI Light Industrial
- OS Open Space
- No Change in Use
- Floodplain

## City Land Use

- Central Commercial
- Commercial
- Light Industrial
- Public Facilities
- Low Residential
- Open Space
- Agriculture
- High Residential
- Mobile Homes
- Vacant
- One-Mile Growth Area
- State Highway
- Corporate Boundary

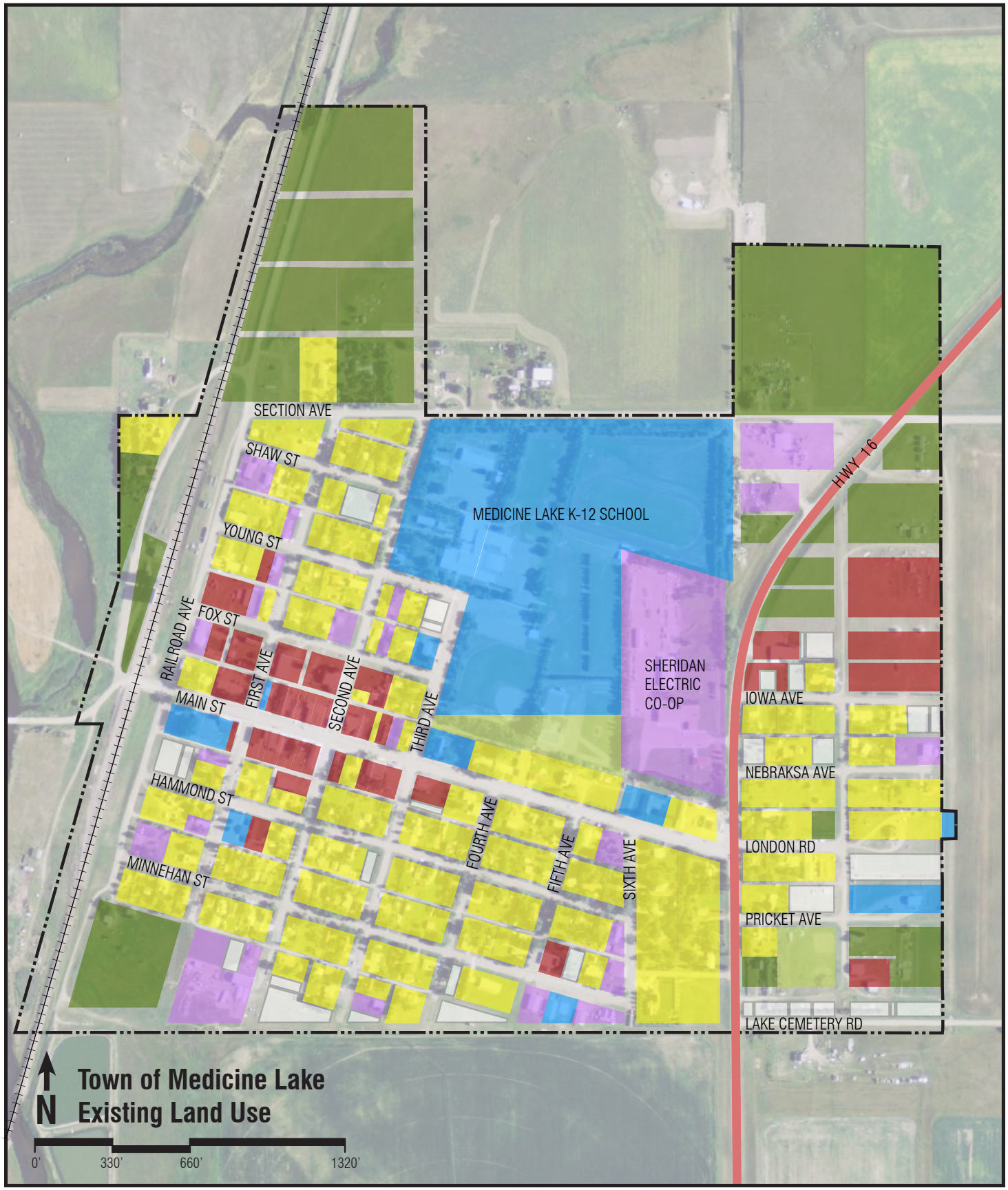



## Growth Area Land Use

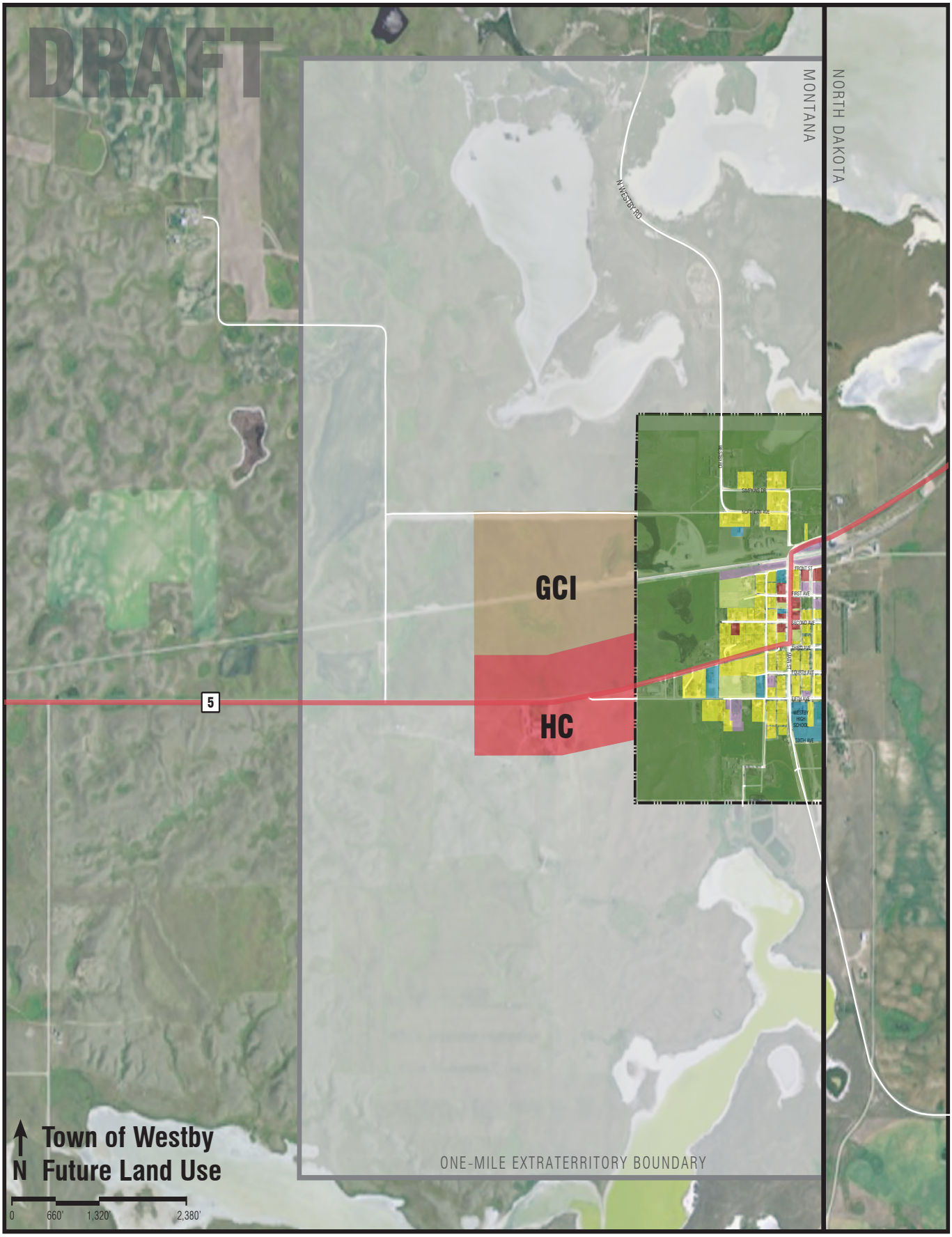
- HC — Highway Commercial
- GCI — General Commercial/Industrial
- PF — Public Facilities
- R — Residential
- No Change in Use
- Floodplain

## Town Land Use

- Commercial
- Industrial
- Public Facilities
- Residential
- Open Space
- Agriculture
- Vacant
- One-Mile Growth Area
- State Highway
- Corporate Boundary




Commercial
Industrial
Public Facilities
Residential
Open Space
Agriculture
Vacant
Railroad
State Highway



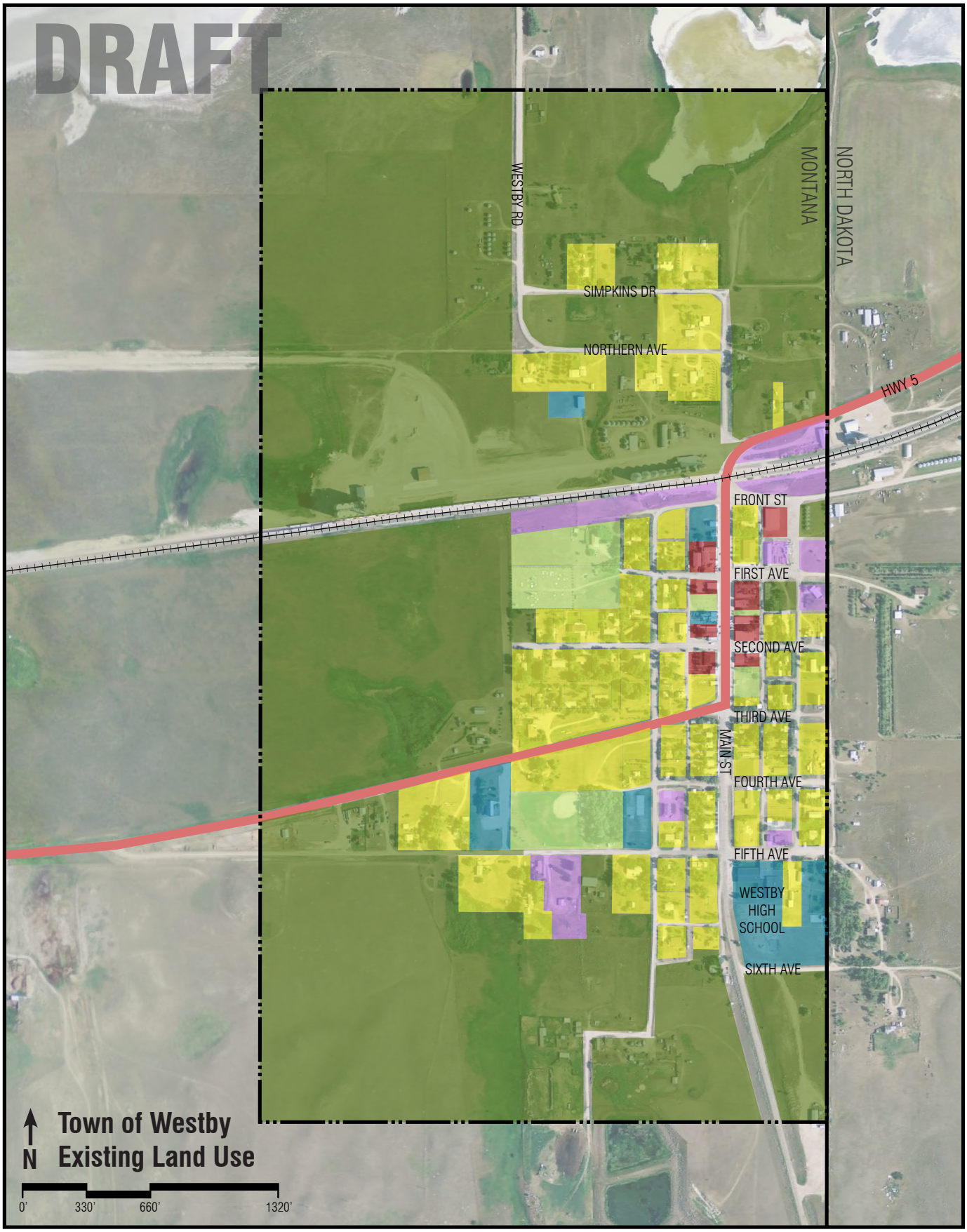

**Growth Area Land Use**

- HC Highway Commercial
- GCI General Commercial/Industrial
- No Change in Use

**Town Land Use**

- Commercial
- Industrial
- Public Facilities
- Vacant
- Residential
- Open Space
- Agriculture

- One-Mile Growth Area
- State Highway
- Corporate Boundary


DRAFT
WESTBY RD
MONTANA
NORTH DAKOTA
SIMPKINS DR
NORTHERN AVE
HWY 5
FRONT ST
FIRST AVE
SECOND AVE
THIRD AVE
MAIN ST
FOURTH AVE
FIFTH AVE
WESTBY HIGH SCHOOL
SIXTH AVE
Town of Westby
Existing Land Use
N
0'
330'
660'
1320'
Commercial
Industrial
Public Facilities
Residential
Open Space
Agriculture
Vacant
Railroad
State Highway

# Part III: Sheridan County Today

## History and General Development

Following the retreat of the last glacier, about 10,000 years ago, the area now known as Sheridan County was seasonally occupied by nomadic band of Indians. Little is known of their culture or history and all that remains is their teepee rings and other stone artifacts. The effects of the coming of the white men were felt long before his arrival here. The introduction of horses first, then trade goods later altered their way of living. As the frontier expanded westward, eastern woodland tribes pushed out onto the plains, replacing the original inhabitants.

At the time Lewis and Clark passed by in 1805, this area was occupied by the Assiniboines. Edwin T. Denig, a fur-trader living at Fort Union from 1837 to 1856, described the land and its people as it was then.

> "The entire country occupied by the Assiniboine's, or hunted in exclusively by them embraces on area of about 20,000 square miles and presents the same general features as the rest of the Upper Missouri territory on the east side of the Missouri River, from the James River up. It may be said to be one plain, hills and timber only occurring where rivers run. Even streams are wooded only a short distance up, which leaves immense tracts over which the traveler may pass for days in succession without meeting tree or bush. In the valleys of rivers good land for tilling purposes can be found, but the level plains present a sterile aspect, and it is presumed do not possess good arable qualities. The soil for the most part is not deep, but light and sandy, and absorbs rain readily in level places.

> "Though wood cannot be found in the Assiniboine plains and buffalo chips are used by the natives for fuel in the summer season, or at any time when not covered by the snow, yet water can, at all times, be had from small lakes, or rather, large ponds. There are met with in many places on the prairie, are formed by melting snow and rain, have no visible outlet, but diminish by evaporation and saturation. They differ in size from 100 yards to two or three miles in circumference, usually contain tolerable good water, are surrounded by a border of tall flags and rushes, and in the fall are covered with innumerable quantities of wild fowl. A few small springs occasionally are seen, but most of them have a mineral taste and possess active cathartic properties.

> "Notwithstanding the unquestioned dull and dreary appearance always presented by naked and extensive plains there are no places that could reasonably by termed deserts. There are some marshes, pools and swamps, which, however, are not so close together or of a nature to form any formidable obstruction to travel. Neither do they seem to affect the health of the natives any farther than their being the adobes of hosts and mosquitoes, which are very annoying to men and beasts.

> "The principle hindrance to foot travelers in this district is the innumerable family of cacti, some of which are armed with very long and strong points and ruin the feet of anyone walking without strong soles to his shoes. The dogs also used by the Indians for carrying burdens over the plains suffer severely from these thorns though the older and more experienced have the faculty of perceiving and avoiding them even while running.

> "The short summer season allows vegetation but little time to decay, and the firing of the prairies, which happens more or less every year in different parts, burns up all the old grass, fallen timber and underbrush in the points. Owing perhaps partly to these things and partly to the equal and temperate degree of heat and moisture, the air is pure and sweet, but few epidemics rage among the migratory Indians. Fevers are unknown and nervous diseases seldom are seen."

The fur traders established the first foothold in the western wilderness and established routes for those who would follow later. The fur trade flourished on the abundant wildlife which at that time included beaver, fox, wolf, bear, deer, elk, antelope and buffalo. By the 1860's the fur trade was declining due to over-harvesting, the gold-seekers were occupying the mountain west, and the Indian tribes were being greatly reduced by disease. The great buffalo hunts of the 1870's exterminated the buffalo and ended any threat of Indian resistance by cutting off their primary source of food.

During the 1880's large cattle and sheep outfits moved in to take advantage of the tall grass and open range. The hard winter of 1886-87 broke many of the open range empires and ranches became smaller and began stocking hay for winter feed In 1887 the huge Indian reservation extending from the Dakota border to the Rocky Mountains and north of the Missouri River was broken up and opened new areas for stockmen. In 1887 Congress granted the railroad an easement through Indian lands and the Great Northern's tracks were laid from Minot to Great Falls that summer. Ranching on the open range continued in this area through the 1890's, but with the railroad came a slow trickle of early settlers.

The railroads brought people and prosperity to Montana and in 1889 Montana became a state. For a number of years Dawson County covered all of Northeast Montana In 1893 Valley County was created to serve the settlements springing up along the Great Northern Railroad.

The trickle of settlers slowly increased until 1908—09 when the Enlarged Homestead Act and the railroad's promotional campaign brought a flood of farmers to the virgin lands of northeast Montana. New boom towns sprang up overnight across the prairie and along the railroads. Homestead, Medicine Lake, Reserve, Antelope, Plentywood, Midby, Archer and Redstone rose along the Great Northern Branch line from Bainville, built in 1910, and Westby, McElroy, Comertown, Dooley, Raymond, Outlook and Daleview along the Soo Line built in 1913. Communities such as Dagmar, Coalridge, Welliver, and Wanso sprang up without benefit of the railroad.

In 1909 settlers were allowed to homestead a half-section. Unalloted lands were opened up for homesteading of the Fort Peck Indian Reservation in 1913 and in 1934 all unappropriated lands were restored to tribal ownership. By 1915 every quarter or half-section of farm land had been occupied and the virgin land broken up. With all its new residents, Sheridan County was created in 1913. Later parts of the county were taken to form Roosevelt County in 1919 and Daniels County in 1920.

The early years of homesteading produced abundant crops, with a few bad years between 1916 and 1920. The county's largest recorded population was 13,847 in 1920. The 20's brought generous growing conditions and economic prosperity. Farm mechanization and adequate precipitation promoted block farming and cultivation of less than suitable land. With the 1930's came drought and depression. Many, depending on continued prosperity and farming on marginal lands, were forced to sell or abandon their land. The number of farms decreased along with the population, and the acreage of the remaining farms increased. The trend for fewer and larger farms has continued from the rapid changes of the 30's to this day.

Between 1920 and 1930, nearly 4,000 people left the county and by 1940, 2,000 more had left. As the people left the land, many of the small boom towns that they had supported for twenty years folded. Little but memories remain of towns like Midby, Archer, McElroy, Dooley, Daleview, Coalridge, Welliver and Wanso. Iowa State University professor, Earl Heady describes the situation found across the nation as well as in Sheridan County:

> "The change in the very nature of farming, with its higher productivity and greater degree of mechanization, has severely affected rural communities... With the decline in the farm population the demand for goods and services of businesses in the county has eroded. Employment and income opportunities in typical rural communities have therefore declined markedly. As more people migrated out of rural communities, there were fewer people left to participate in the services of schools, medical facilities and other institutions. With the lessened demand such services retreated in quality and quantity and advanced in cost."

Between 1940 and 1950 the population decline continued with nearly 1,200 people leaving the county. The 1940's brought improved transportation and greater mobility. People continued to migrate to urban areas where economic opportunities were better By 1950 the population was less than half what it was thirty years earlier, but during the 50's the population dropped by only

200 people and 700 people during the 1960's The decrease in outmigration during the 1950's may be attributable, in part, to the baby boom following World War II with those children in grade school and then in high school during the 60's. In 1980, the county's population stood at 5,414, 365 less than in 1970. The 1980 census was taken during the middle of the oil boom, without which the population numbers would undoubtedly have shown a greater decline.

Since 1937 farmers in Sheridan County have not experienced a complete crop failure. Federal farm assistance programs established in the 1940's have brought stability to agriculture with price supports, grain storage loans, and soil conservation incentives. In spite of this the cost-price squeeze continues to the advantage of large farms with the small land-holder being forced out.

The county's first producing oil well was drilled near Outlook in 1956, and by 1970 there were eight oil fields in Sheridan County with a total production of nearly 20 million barrels. There was a lag in activity during the early 70's until the Arab Oil Embargo and the rapid escalation in the price of oil. Oil exploration increased rapidly during the late 70's and early 80's with a total county production of 40 million barrels by 1980. The oil boom halted the decline of many of the small communities and increased employment opportunities for young people in Sheridan County. Again today, in the 2010's, the county is surrounded by the effects of the next oil boom, as exploration and production is slated to increase as a result of advanced drilling technology all across the Williston Basin. Despite a brief dip in 2010, northeastern Montana wells are beginning to near new peaks in production and value.

The decline of farm communities led to a centralization of retail outlets and services in Plentywood. Because of that, Plentywood has continued to prosper. The availability of services and retail stores concentrated the oil impacts of population increase and economic activity in Plentywood, and the city experienced a rate of growth not seen since its beginning. Despite the oil economy, young people continue to leave Sheridan County for college and better jobs, although there are more young people staying or returning to the county; possibly due to a turnover of businesses to the next generation and a reduction of better economic opportunity elsewhere.

Agriculture has been and continues to be the mainstay of Sheridan County. Oil activity is expected to continue well into the next decade but at some point those reserves will become depleted It is impossible to speculate whether the county's sizable coal or potash deposits will be developed and replace the oil economy, but the fact remains that agricultural productivity is the county's only renewable resource and that is where our future lies.

Sources

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## Physical Characteristics

### Climate

Sheridan County's climate can generally be described as continental with cold winters, warm summers and a marked variation in seasonal precipitation averages 12.5 inches annually. In a normal year about 80 percent of the annual precipitation falls during the April—September growing season. June is usually the wettest month followed by May and July.

While snowfall averages are not large compared to the rest of the state, heavy snows do occur infrequently, usually in late winter or early spring. Summer precipitation usually occurs as showers, and thunderstorms are fairly frequent. Some of these thunderstorms occasionally produce hail heavy enough to damage crops Steady gentle rains can occur in May, June and September Winters are quite cold, although not as severe as is thought by many. Some very cold spells do not ordinarily last for an extended period of time. Relatively mild winter weather is not uncommon; however, periods of mild weather do not occur as frequently as in the counties near the Rocky Mountains.

In spring the change from wintery to warmer weather is quite rapid, and the progressive cooling of the fall season is very noticeable in October and November Summers are characterized by warm weather which often lasts for weeks at a time. Temperatures can reach highs of 90 degrees or more during any month from May to September, and on about half of the afternoons in July and August temperatures will reach 90 degrees or warmer. The average length of the growing season is 110 days from around the first of June to the middle of September.

Spring is usually the windiest time of year with winds averaging over 20 mph about 15 percent of the time. Speeds of 50 mph or stronger occasionally occur as a weather system crosses the state during the fall and winter, and during the summer accompanying a thunderstorm. The strongest winds usually come from a westerly direction.

The climate and changing seasons regulate many of our activities and the climate limits most agricultural production to growing small grains, hay and native forage, and is especially favorable for growing spring wheat and durum. Heavy snow, blizzards, and prolonged cold spells make it necessary to provide shelter and supplementary feed for livestock.

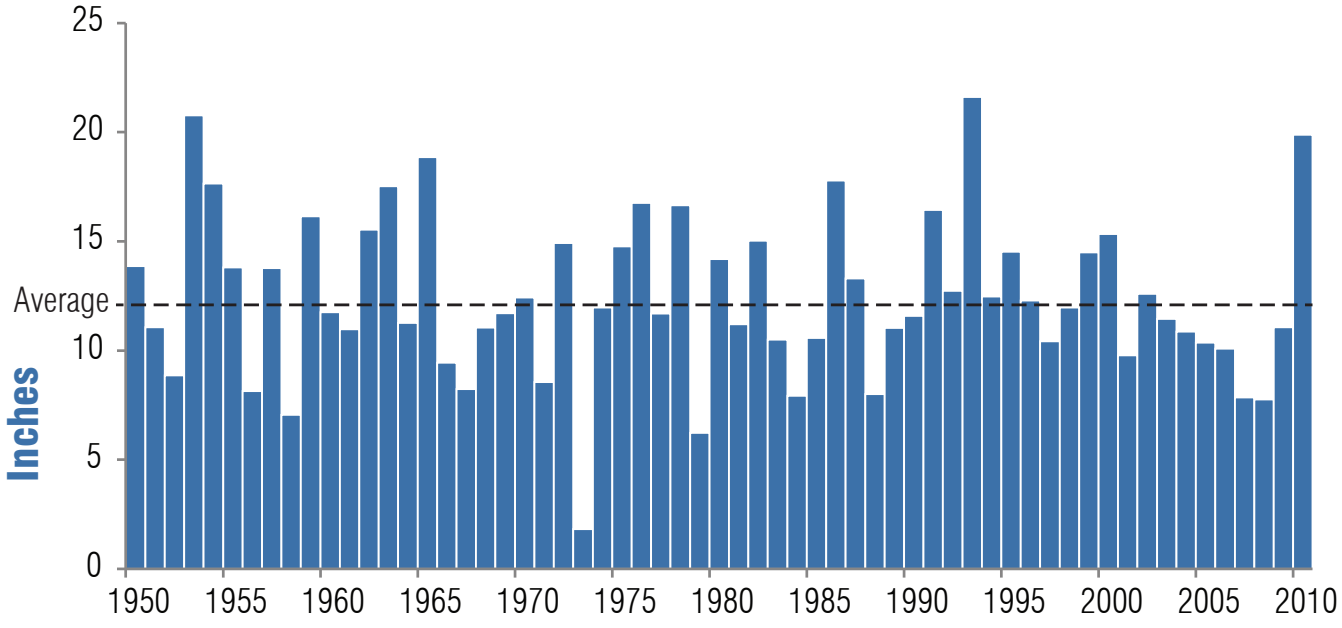
Because of its extremes, our climate should be given consideration when planning for a variety of human functions. Houses and buildings should be properly located and built to reduce winter fuel consumption and summer cooling costs.

*Temperature and Precipitation Averages*

| | Medicine Lake | | | | Redstone | | | | Westby | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Temperature** | Average Daily Max | Average Daily Min | Average Monthly High | Average Monthly Low | Average Daily Max | Average Daily Min | Average Monthly High | Average Monthly Low | Average Daily Max | Average Daily Min | Average Monthly High | Average Monthly Low |
| Jan | 19 | -4 | 42 | -31 | 19 | -5 | 45 | -34 | 17 | -5 | 40 | -31 |
| Feb | 26 | 2 | 44 | -25 | 27 | 2 | 48 | -26 | 24 | 1 | 43 | -25 |
| Mar | 36 | 12 | 58 | -15 | 36 | 12 | 60 | -16 | 43 | 12 | 57 | -14 |
| Apr | 55 | 28 | 76 | 11 | 54 | 25 | 76 | 9 | 52 | 29 | 76 | 13 |
| May | 68 | 40 | 87 | 24 | 67 | 36 | 87 | 21 | 67 | 40 | 88 | 24 |
| Jun | 76 | 49 | 92 | 35 | 77 | 47 | 93 | 33 | 75 | 49 | 92 | 36 |
| Jul | 85 | 54 | 97 | 42 | 85 | 51 | 98 | 40 | 84 | 55 | 98 | 43 |
| Aug | 84 | 52 | 97 | 38 | 84 | 48 | 98 | 33 | 83 | 52 | 97 | 40 |
| Sep | 72 | 42 | 90 | 25 | 71 | 38 | 90 | 19 | 71 | 41 | 91 | 25 |
| Oct | 60 | 31 | 80 | 15 | 59 | 28 | 79 | 8 | 59 | 32 | 79 | 15 |
| Nov | 39 | 17 | 62 | -6 | 39 | 15 | 58 | -9 | 37 | 17 | 60 | -6 |
| Dec | 26 | 4 | 48 | -22 | 27 | 3 | 49 | -25 | 24 | 3 | 45 | -21 |

| **Precipitation** | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plentywood | 0.4 | 0.4 | 0.3 | 1.0 | 1.6 | 2.9 | 2.2 | 1.8 | 1.2 | 0.6 | 0.4 | 0.3 | 13.1 |
| Medicine Lake | 0.4 | 0.4 | 0.4 | 1.2 | 1.8 | 3.5 | 2.1 | 1.7 | 1.2 | 0.7 | 0.5 | 0.3 | 14.2 |
| Redstone | 0.3 | 0.3 | 0.3 | 1.0 | 1.7 | 2.7 | 1.9 | 1.6 | 1.2 | 0.6 | 0.4 | 0.3 | 12.3 |
| Westby | 0.6 | 0.5 | 0.5 | 1.1 | 1.9 | 3.1 | 2.0 | 2.1 | 1.2 | 0.7 | 0.5 | 0.5 | 14.7 |

*Average Annual Precipitation, Plentywood 1950-2010*




Source: Western Regional Climate Center 2012

Using shelterbelts and natural barriers to reduce the effect of the wind should be considered. Roads should be located to minimize spring flooding and drifting snow in the winter. Strip farming reduces wind erosion hazards and provides for greater accumulation of winter moisture.

As the cost of energy increases, uses of solar energy will become more widely accepted. Our sunny climate is ideal for using solar energy to supplement home heating as well as heating farm buildings, institutions and commercial buildings. Wind energy is also plentiful in Sheridan County and may provide supplemental energy on a more limited basis.

## Topography and Water Features

The relief of Sheridan County varies from the rolling glaciated till plains in the north and east to the benches and coulees in the west and southwest. The glaciated areas consist of a hilly landscape that has scattered intermittent ponds and lakes and poorly developed drainages Lands in the southwest part of the county were not disturbed by the last glaciation and have more developed drainages. Elevation ranges from a low of about 1,933 feet in the southern part of the county along Big Muddy Creek to a high of 2,650 feet about 15 miles southwest and 10 miles northeast of Plentywood. The elevation of Plentywood is 2,041 feet.

The major drainage in the county is Big Muddy Creek. It enters the county in the northwest corner from Canada and meanders southeasterly, leaving the county a few miles south of the town of Homestead. The valley for the Big Muddy, as well as Lake Creek, was formed by glacial runoff and is a much larger channel than would be formed by its present drainage. All streams and tributaries drain into Big Muddy Creek which is a tributary of the Missouri River. The water level in the Medicine Lake Wildlife Refuge is maintained by diverting water from Big Muddy Creek. The main tributaries to the Big Muddy are Beaver Creek, Wolf Creek, and Lake Creek. The northeast corner of the county has no surface drainages; and the area is on the divide between waters draining north to Hudson Bay and south to the Gulf of Mexico.

Water for livestock and wildlife is provided from streams and ponds s well as man-made features such as wells, dugouts and dams. All water for domestic use is from wells. The existing spring developments are found along the edges of the tributaries. Most springs are fed from coal seam and a number of water wells take their water from coal veins.

Farmland is mostly irrigated using sprinkler systems. Sprinkler irrigation began in the eastern part of the county about 30 years ago, when usage of water-spreading systems along the Big Muddy was prevalent. The sands and gavels which fill the old Missouri channel form an aquifer which can provide 1,000 gallons per minute, and the water quality is reported to be good. Some of the other aquifers in the county have a more limited potential for well development to be used for sprinkler irrigation.

The deep aquifers such as the Madison formation offer little value for irrigation or domestic consumption, but they may have important commercial or industrial applications in the future.

The State of Montana has been studying the extent of the aquifers for the past 20 years, granting authority to monitor and appropriate water to irrigators to the Sheridan County Conservation District (SCCD). In 1994, the state granted SCCD a water reservation of 5,809 acre-feet. After 5,170 acre-feet became developed for irrigation and after it appeared there was not an adverse drawdown, an additional amount of 4,191 acre-feet was added in 2004. The remaining amount available for irrigation is 5,479 acre-feet.

## Soil Associations

A soil association is a landscape that has a distinctive proportional pattern of soils. It normally consists of one or more major soils and at least on minor soil, and it is named for the major soils. The soils in one association may occur in another, but in a different pattern. A map showing soil association is useful to people who want to compare different parts of this area, or who want to know the location of large tracts that are suitable for a certain kind of land use. More detailed information on individual soils can be found in the Sheridan County Soil Survey report. Following is a description of the soil associations found in the county.

WILLIAMS ASSOCIATION: Nearly level to gentle rolling; deep loams with clay subsoil; on glacial till uplands.

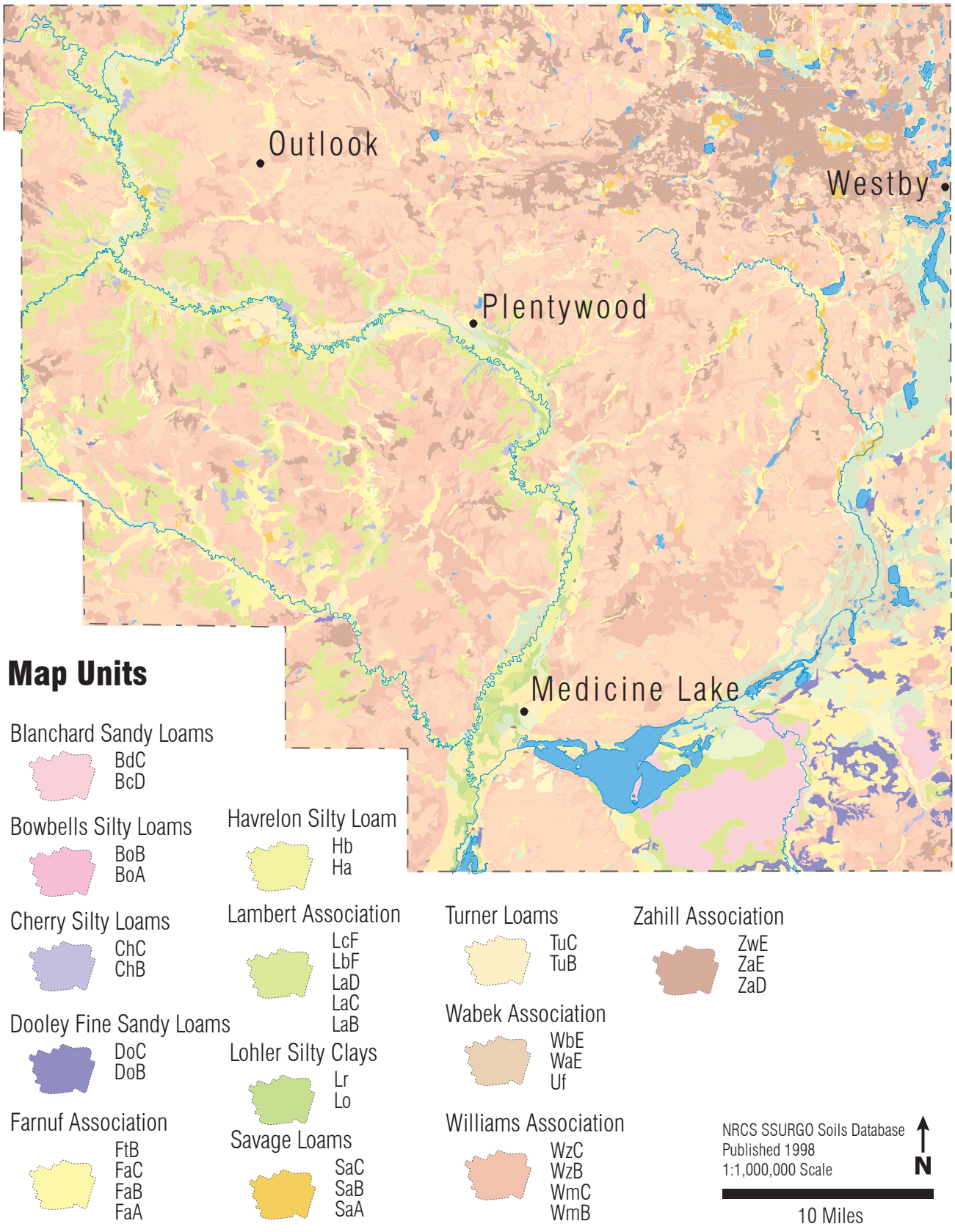
WILLIAMS–ZAHILL ASSOCIATION: Undulating and gently rolling; deep loams with clay loam subsoil and deep clay loams, on glacial till uplands.

ZAHILL-WILLIAMS–DIMMICK ASSOCIATION: Hilly; deep clay loams; loams with clay loams subsoil and deep silty clay with clay subsoil; on glacial till uplands.

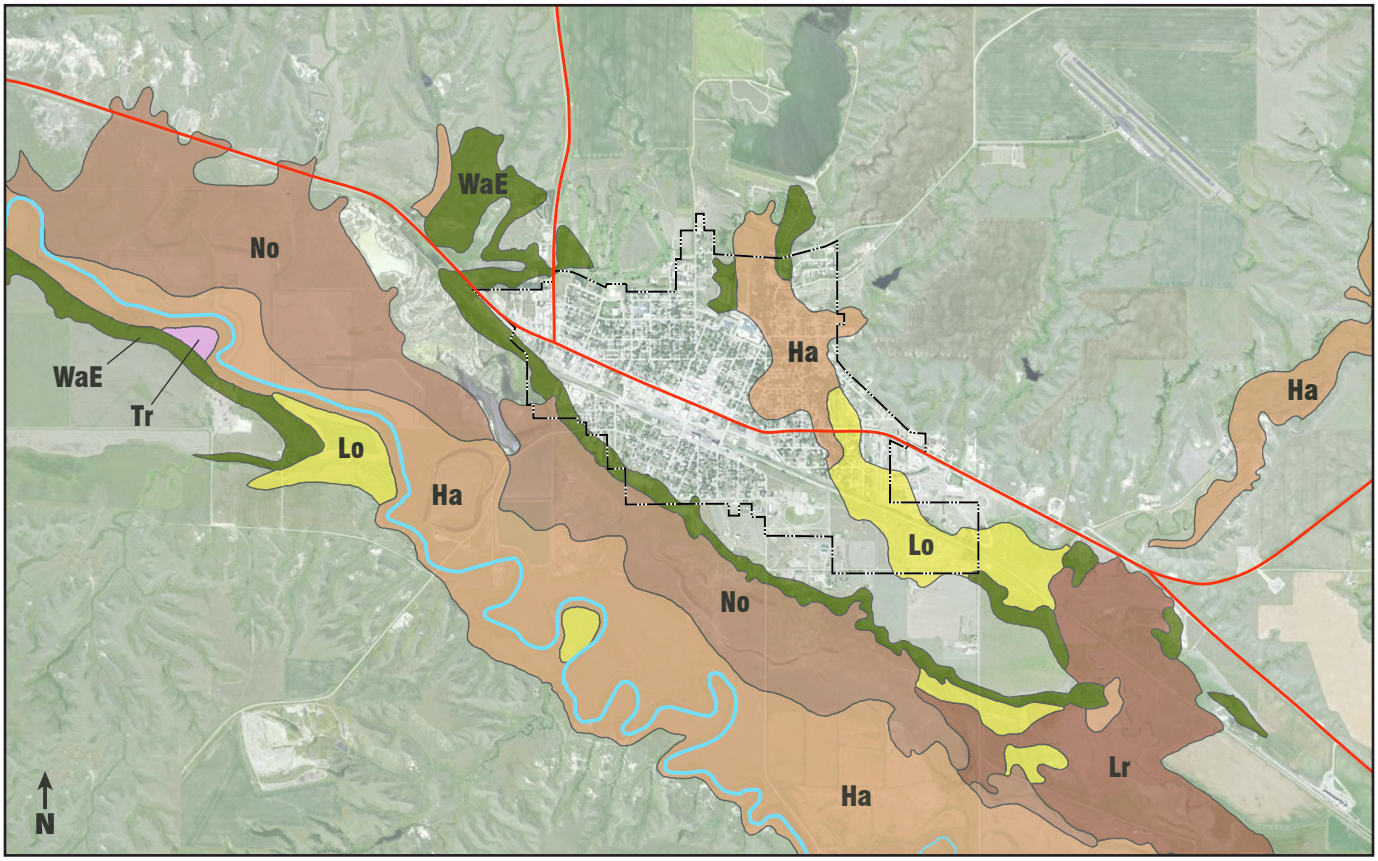
SAVAGE-MARIAS ASSOCIATION: Nearly level and gently sloping; deep silty clay and clay; on uplands.

DOOLEY–PARSHALL ASSOCIATION: Nearly level to gently rolling; deep fine sandy loams with sandy clay loam subsoils underlain by clay loam glacial till and deep fine sand loams; on uplands.

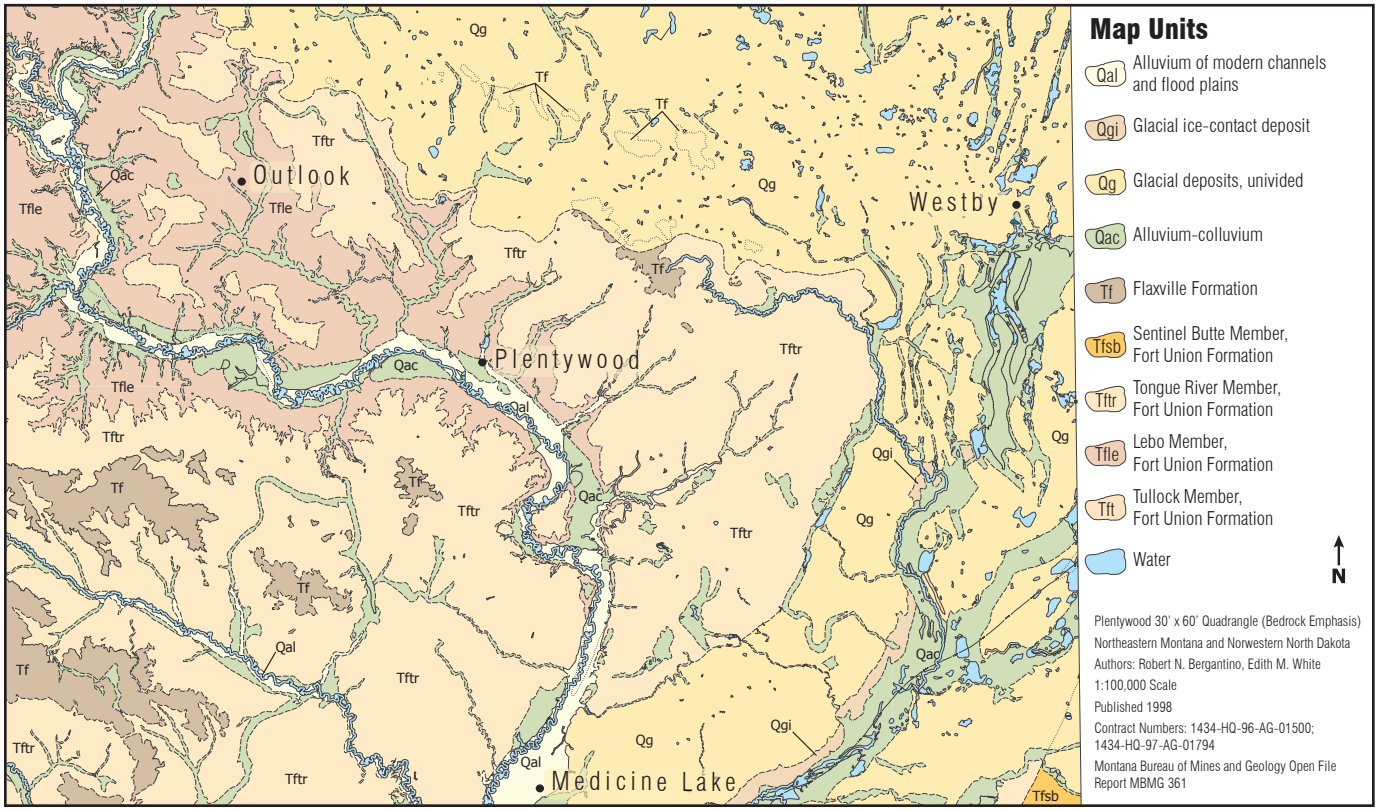
*Soil Associations*



*Unsuitable Soils Map, Plentywood*




*Bedrock Geology*



BLANCHARD ASSOCIATION: Hilly; deep fine sand and loamy sand; on stabilized dune sand.

LIHEN–PARSHALL ASSOCIATION: Nearly level to gently rolling; deep loamy fine sand and fine sandy loam; on sandy uplands.

MANNING–WABEK ASSOCIATION: Nearly level to steep; deep coarse sandy loams underlain by sand and gravel and deep gravel; on outwash plains.

TURNER–FARNUF ASSOCIATION: Nearly level to gently rolling; moderately deep loams with clay loam subsoils underlain by sand and gravel, and deep loams with clay loam subsoil underlain by clay loam and loam; on uplands and stream terraces.

HAVRELON–CHERRY ASSOCATION: Nearly level to moderately sloping; silt loams and deep silty clay loams on flood plains and adjacent fans.

NOBE–LOHLER–BOWDOIN ASSOCIATION: Nearly level; deep saline clay; deep silty clay and deep clay; on flood plains.

LAMBERT-ZAHILL ASSOCIATION: Moderately steep and steep; deep silty clay loam and deep clay loam; on rough broken lands.

McKENZIE ASSOCIATION: Nearly level; very poorly drained, wet and/or saline, deep silty clay loams with silty clay or clay subsoils underlain by clays; on lowlands.

WABEK ASSOCIATION: Nearly level to steep deep gravelly soils; on terrace edges and outwash plains.

## Land Form and Geology

The present land form of Sheridan County was shaped largely during the glacial period. A thin mantle of glacial drift covers most of the upland areas. This has been left by at least three continental ice sheets, the last one occurring about 12,000 years ago. Much of this material has been brought from the Hudson Bay region, and it is estimated that the drift is up to 200 feet deep in places.

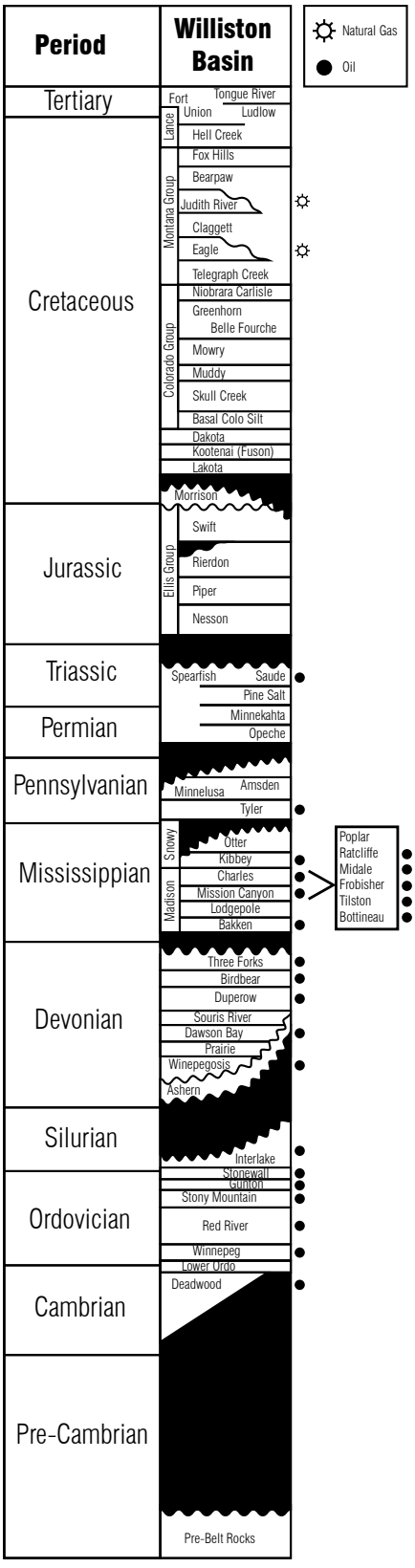
Many of our present valleys and drainages were formed in carrying the large runoff from the melting glaciers. Sand and gravel were washed out and deposited by these glacial streams. The sand hills and other sandy areas in the south and eastern part of the county originated from large glacial outwashes following or running into the old Missouri River channel.

Prior to glaciation, Sheridan County was part of an extensive plain extending from the Rocky Mountains. The flat benches and hilltops characterized by the Flaxville Gravel are thought to be remnants of this pre–glacial plain. During this time the Missouri River flowed north to Hudson Bay through the south and eastern parts of the county. At some time during the ice ages, the Missouri's flow was blocked and it was forced to flow east and south along the edges of the great ice sheets, with the old channel being filled in with debris pushed along by the ice sheet and sediments from the outwash as it melted.

The most recently glaciated areas are characterized by sharp rolling hills, small lakes and ponds, and poorly developed drainage, as is found in the northeast portion of the county and down the old Missouri channel to Medicine Lake.

The bedrock underlying the glacial till and Flaxville Gravel is the Fort Union and Hell Creek Formations made up of sandstone, clay, and shale. These stratified deposits were laid down by shallow seas and the intermittent coastal swamps which contained the great fern forests that produced the layers of coal in the Fort

*Pay Zones of the Williston Basin*



Union Formation. The Hell Creek Formation is exposed in the breaks along Beaver Creek and the Big Muddy and its tributaries. Lignite coal from the Fort Union and Hell Creek Formations was a primary source of energy for the early residents of Sheridan County, and it was mined throughout the county wherever the veins were exposed or close to the surface.

The Madison limestones of Mississippian age lie at a depth of around 6,000 feet, and are a continuation of an extensive layer extending from the Rocky Mountains to eastern North Dakota. These deposits contain gas and oil as well as sizable quantities of artesian water which flow in from the Rocky Mountains.

The Devonian deposits of salt, potash and oil are thought to have developed when the shallow inland sea became partially closed off from the oceans and evaporation concentrated the salts and prevented organic matter from decaying. The subsidence of the Williston Basin has carried these deposits to a depth of 8,000 to 12,000 feet while near Regina the deposits are 5,000 feet deep and at the northern edge it is 2,600 feet deep.

Below the surface of Sheridan County, the geologic history is contained in stratified deposits reaching to a depth of at least 15,000 feet and covering an estimated time span of three billion years. The composition of these deposits indicate the conditions that existed when they were laid down. Sandstones and shales indicate a nearness to the shoreline while limestone deposits indicate a deep sea condition. Periodically the area was above sea level and some of the ocean deposits were worn away to break the sequence of deposition. The most influencing factor in the deposition of these subsurface layers is that they lie on the western slope of the Williston Basin. The Williston Basin is one of a series of basins in an immense trough extending from western South Dakota through eastern Montana all the way to the North Slope of Alaska and the Arctic Ocean, a distance of 2,000 miles. The Williston Basin was sinking as many of the deposits were laid down, so that sedimentation is thicker toward the center of the basin. During many of these geologic periods the coastline followed a general north—south line through the area. Shallow lagoons, bays, and coral reefs led to the accumulation of organic matter in sediments along the shoreline. Repeated inundations of the sea laid down impermeable layers of clay, shale and salt which trapped the organic matter in porous beds of sandstone and limestone. Through the action of heat and pressure this organic material became oil.

Sources

Climatic Summaries of the U.S., U.S. Department of Commerce,

National Climatic Center, Asheville, North Carolina

Sheridan County Conservation District, Long Range Plan, Montana, 1976

Regional Geomorphology of the United States, William D. Thornbury, John Wiley and Sons Publishing, Copyright 1965

"Quaternary Geology of the Smoke Creek—Medicine Lake-Grenora Area", Irving J. Whitkind, U S G S Bulletin 1073, U.S. Government Printing Office, Washington, D.C. 1959


## Land Ownership

The present system of land ownership began around 1900. Before that it was part of a balanced grassland ecosystem occupied by nomadic tribes of Indians. After the buffalo and before 1900, the area was used as open—range summer grazing for large cattle ranches located on the Missouri River. The first homesteaders began arriving around 1902, occupying the prime lands along the trail following the Big Muddy. The first homesteaders were primarily from the Midwest, with a large percentage of the settlers during the homesteading boom being of Scandinavian origin.

A number of federal laws have affected the patterns of land ownership in the county. The Homesteading Act set aside every 16th and 36th section of unsettled land for the state to support the school systems In 1912, President T. R. Roosevelt instituted the International Boundary Reservation where all unappropriated lands lying within 60 feet of the Canadian border line be reserved from entry, settlement, or other forms of appropriation. In 1913, unalloted Indian land on the Fort Peck Indian Reservation was opened to homesteading, and in 1934 the Wheeler-Howard Act restored all vacant unappropriated lands to tribal ownership. By 1915, most of the land had been homesteaded and much of it broken up by horse and plow.

Prior to 1909, homesteaders were allowed to claim a quarter section of land. The Enlarged Homestead Act of 1909 allowed settlers to claim a half section so that originally, land ownership in the county was limited to relatively small acreages.

During the 1920's, many of these small tracts were consolidated into larger farms. The introduction of steam-powered machinery favored large farming units, and the drought and depression of the thirties insured the elimination of uneconomical small land holdings. During the depression the federal government purchased and developed land to create the Medicine Lake Wildlife Refuge.

During and following World War II, economic prosperity and increased farm mechanization returned and the trend toward larger farms continued. Federal farm programs, initiated during the depression, have supported the consolidation of individual land holdings with the slogan during the 50's being "get big or get out". These policies have greatly expanded agricultural production but in the process have depopulated rural areas.

The trend toward larger farms and smaller rural population is currently being seen as a mixed blessing. The larger farms have increased national agricultural productivity, but in the process have created an economic decline in rural communities. In the

past, there has been public support for a policy to reduce large land holdings in order to halt the decline in rural economics and population.

Today, Montana farmers are responding to the growth in demand for organic and locally grown products, as over 215,000 acres of organic farmland has been dedicated in the state from 2000-2008. Western Montana farmers have even begun a union to establish a "homegrown" organic label that pledges small farmers to "grow naturally, protect air and water, maintain fair labor practices and, most importantly, to sell and buy in their communities", with start-up support from established farmers. Similar local organizations could benefit communities within Sheridan County and statewide.

As the population and voting power shifts from rural to urban areas it can be expected that the traditional rights of rural property ownership will lose ground to urban interests in areas such as the recreational uses of land, taxation and the energy and water resources needed to feed urban growth.

The land ownership pattern of the county is shown on the land ownership map on the following page. The approximate ownership by percent of total is depicted below.

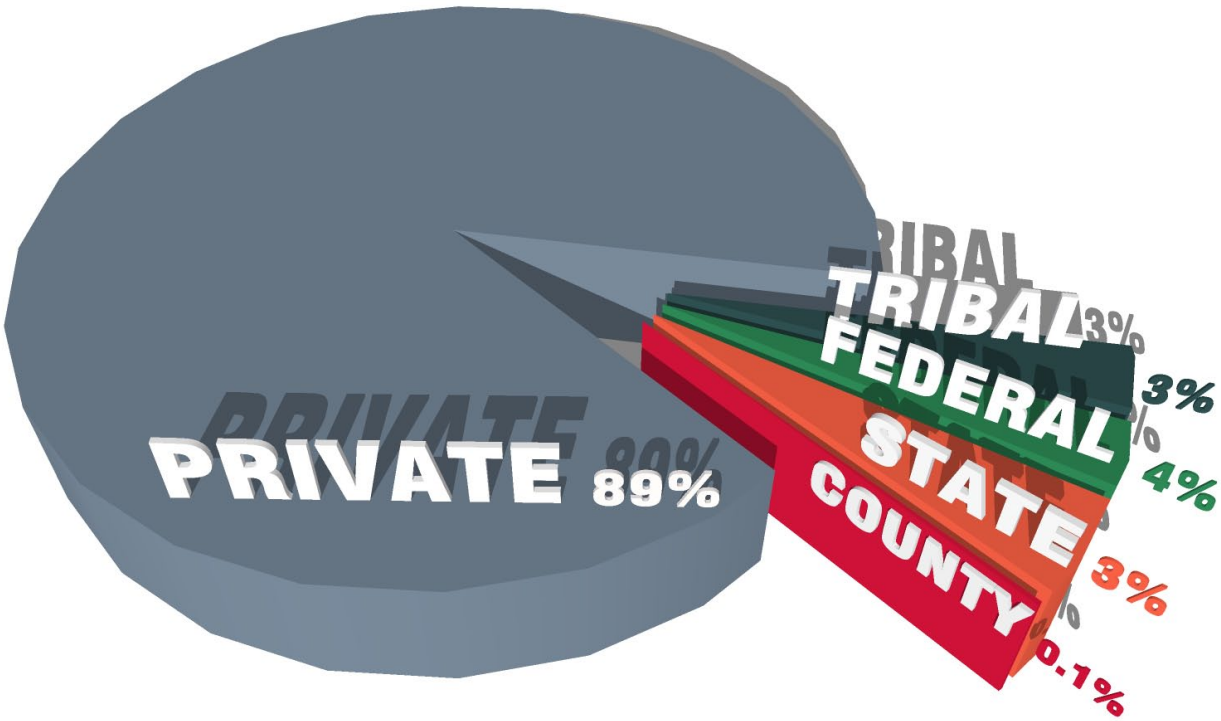
Private land ownership accounts for about 88.6 percent of the land in the county, up from 81.3% in 1983. It is estimated from local records that 11.8 percent of the private land is owned by individuals or corporations residing outside of the district. In 1979, there were approximately 15 small ownership tracts in the county, generally located around the town of Plentywood.

Federal lands (4.2%) are, for the most part, administered by the Fish and Wildlife Service, and include all the land in the Medicine Lake National Wildlife Refuge as well as a number of small wetland areas generally located in the northeast part of the county.

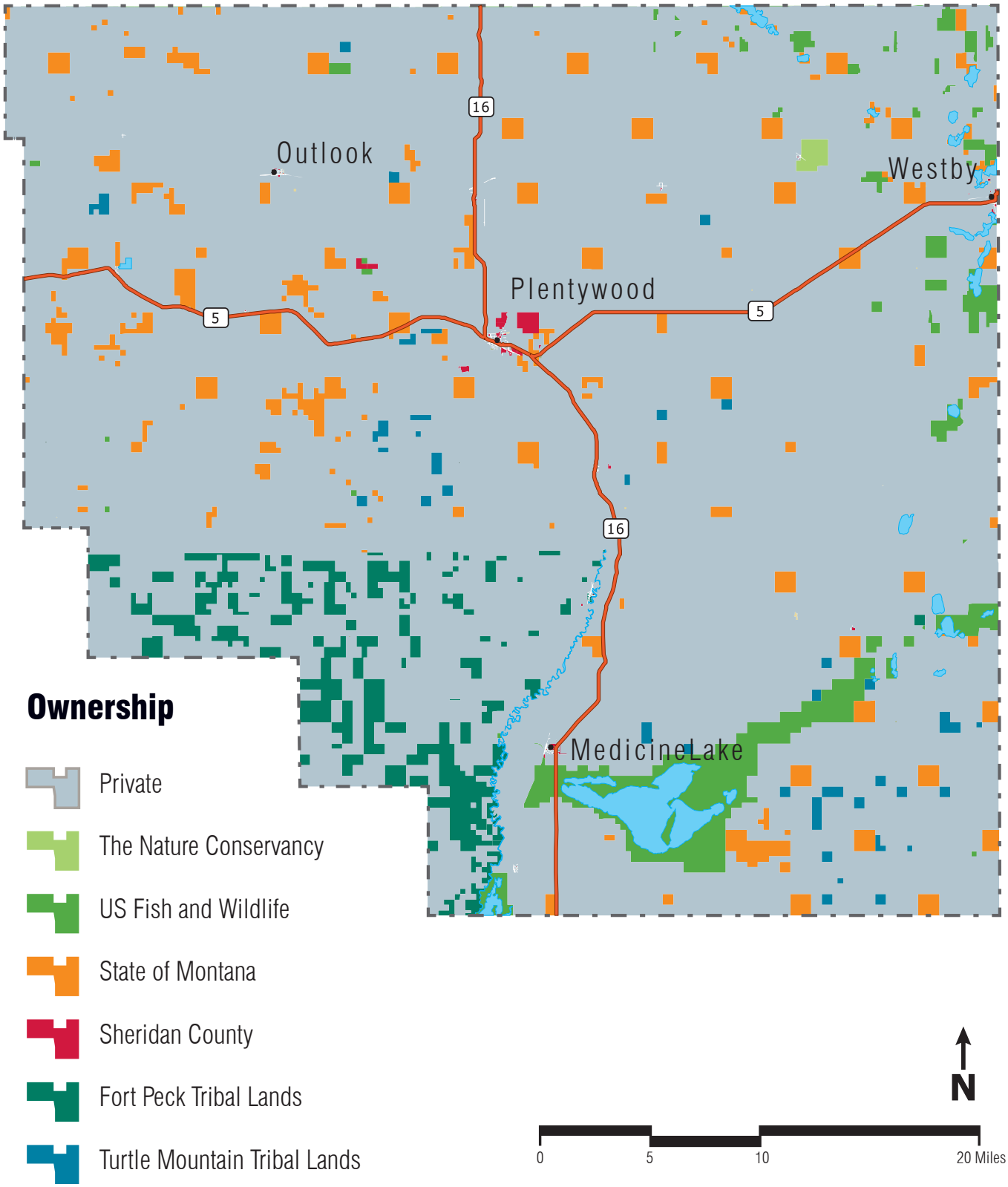
State lands (2.9%) are commonly found in section 16 and 36 of each township. These lands are generally leased to operators in the immediate area for periods of ten years.

Indian lands account for 3.0% of the county land ownership. These include lands on the Fort Peck Indian Reservation as well as land outside the reservation belonging to the Turtle Mountain tribes. Indian lands are generally not owner-operated probably due in part to their trust ownership status. Ownership of tribal land is generally not transferable, and ownership remains in the family of the original owner with each succeeding generation dividing the ownership interest into proportionately smaller shares. Tribal lands are generally leased by bid to local operators for periods of up to five years. The 1,271 acres owned by the county include the Sher-wood airport property, the Carroll Dam site, the Plentywood Landfill, a 148-acre site north of the Plentywood golf course, and other small acreages.

*Land Ownership Pattern*



*Land Ownership, Sheridan County*



Sources

Montana Cadastral Database, 2012.

USGS National Land Cover Database (NLCD) 2006

US Census of Agriculture, Part II County Data, 1969-2007


## Land Use

Prior to 1900, nearly all the land in Sheridan County was used for grazing. From 1900 to 1916 homesteaders settled the area and started dryland farming operations. Presently, approximately 98 percent of the land is used for the production of crops and livestock.

The total surface area of Sheridan County amounts to 1,091,500 acres or approximately 1700 square miles with around 12,000 acres being publicly owned water areas.

Dry cropland is the largest single land use in the county. These lands are used primarily for the production of cereal grains produced under alternate crop/fallow system. Pasture consists of tame grasses used to supplement livestock feed and forage and are used interchangeably depending on the need.

Rangeland is the second largest single land use with these lands providing the primary resource for supporting the livestock industry, which in Sheridan County is largely cattle. Other lands include farmsteads, farm roads, rural non-farm residences, investment tracts, country churches, schools, cemeteries and small stock ponds and reservoirs less than two acres in size. Mining or industrial uses occupy just less than 80 acres of the county. This does not include land used for roads and pipelines.

Urban and built-up areas in the county include principal cities and towns, including land occupied by the cities of Plentywood, Medicine Lake, and Westby, as well as the unincorporated urban areas of Antelope, Outlook and Reserve.

Increased oil development in Sheridan County has increased the amount of land being taken out of agricultural production for roads, drilling sites, pipelines and tank storage Along with this the increase in economic growth has increased demands for additional lands for commercial, industrial, recreational, and now particularly, temporary residential uses.

The development of land use regulations, or development permits in Sheridan County would serve to promote orderly growth and preserve the productivity of the land. Montana law does not allow land use regulations to interfere with agricultural uses of land or interfere with the recovery of mineral resources. Therefore, land use regulations developed for Sheridan County would be used primarily for directing urban growth.

The development of land use regulations for Sheridan County would be a step toward preserving our agricultural heritage and insuring that due consideration is given before agricultural land is shifted to urban uses.

Every day in the United States, three and a half square miles of our nation's prime farm lands are shifted to uses other than agriculture. In addition to the prime land loss, we are losing another two million acres of lesser quality agricultural land to non-agricultural conversion each year. Although we can't see much of this problem in this area, Sheridan County loses some of this land every year to nonagricultural uses.

## Cropland

The amount of land in crops and rangeland varies from year to year with a slight trend indicating an increase in cropland and a decrease in rangeland. The major crops grown in the county are wheat and hay. Other crops include smaller acreages of safflower, flax, rye and sunflowers.

Economics and federal policies play a large part in agricultural land use changes. The price support and farm loan programs initiated following the depression limited acreages for specific crops and summerfallow, and encouraged soil conservation through recommended farming practices. The soil bank program returned some of the county's more marginal croplands to pasture and range. The suspension of price supports and acreage limits on wheat in the mid-1970's caused much of the marginal croplands to be put back into production.

Agricultural land use is generally determined by the land's productivity and the economic climate. Marginal cropland may be seeded to pasture if grain prices are low and cattle prices high and vice versa. With increased fuel and other production costs, the returns from marginal cropland will decrease, and it can be assumed that there will be a trend toward returning marginal cropland to pasture, especially in cases where the farming operation is diversified with grazing animals.

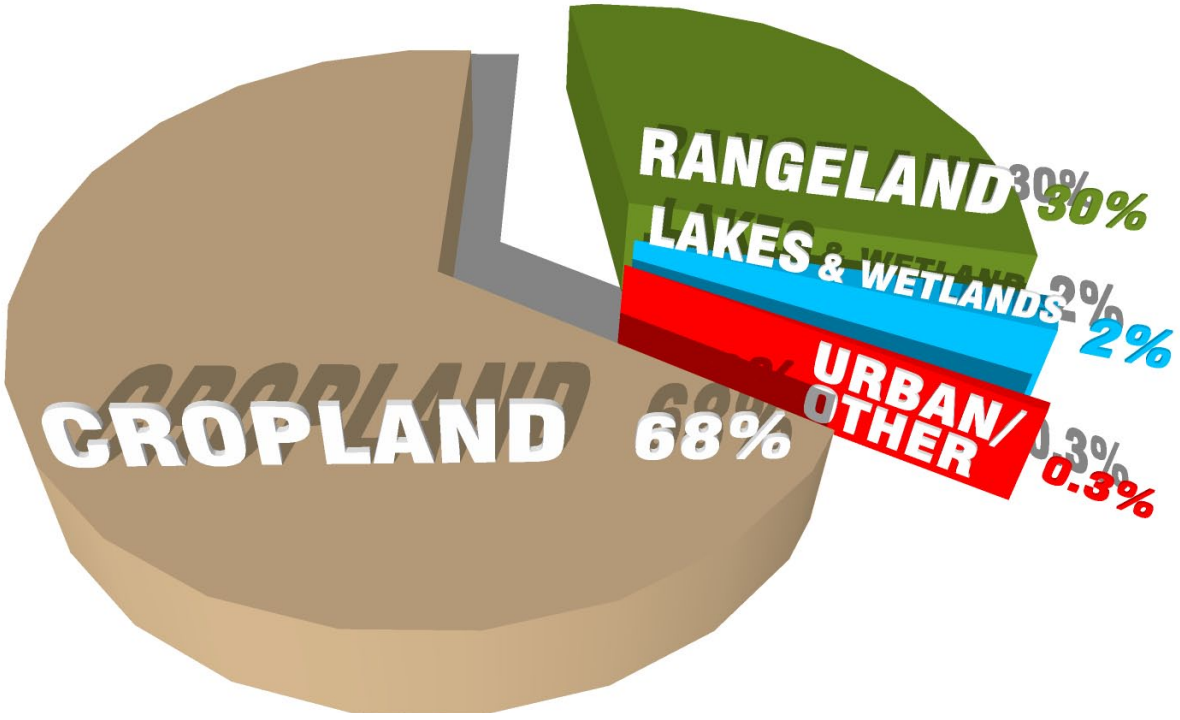
*Land Use by Percent*

| **Use** | Acres | Percent |
|---|---|---|
| Agricultural | 1,068,674 | 97.9% |
| Cropland | 737,264 | 67.5% |
| Rangeland | 327,826 | 30.0% |
| Other | 3,584 | 0.3% |
| Mining and Industrial | 78 | 0.0% |
| Urban and Built-up | 1,494 | 0.1% |
| Lakes and Wetlands | 21,257 | 2.0% |

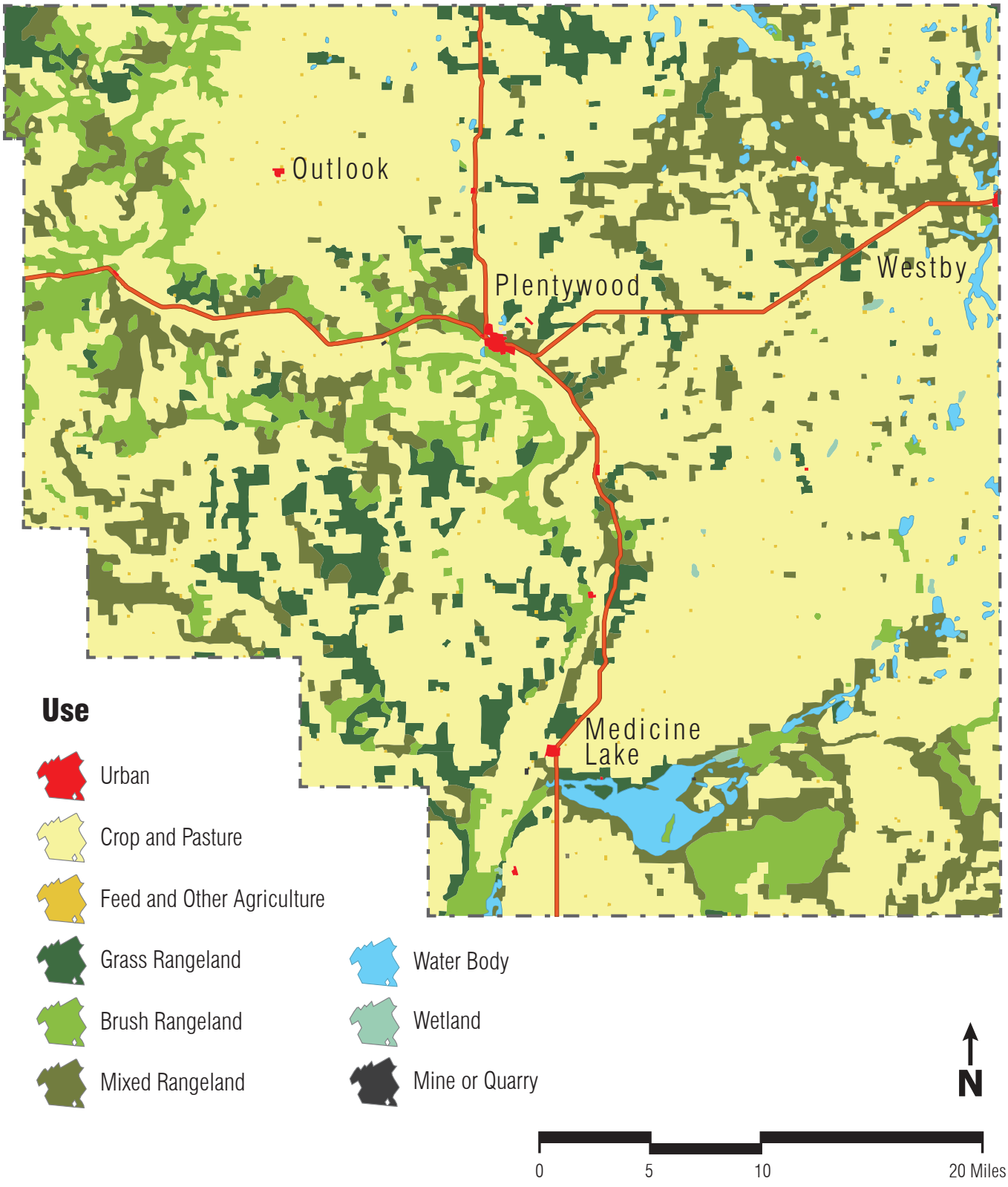
### Saline Seep

One of the land use problems in Sheridan County associated with farming practices is saline seep. Most of Sheridan County has the potential for this problem except for an irregularly shaped area starting east of Plentywood and following the Big Muddy drainage west. Conditions leading to the development of seeps are 1) permeable soil mantle over an impermeable strata; 2) high soluble salt content in underlying material; 3) relatively high precipitation, 13 to 19 inches annually; 4) crop-summer-fallow type farming; 5) good summerfallow management; and 6) large areas of fallowed land.

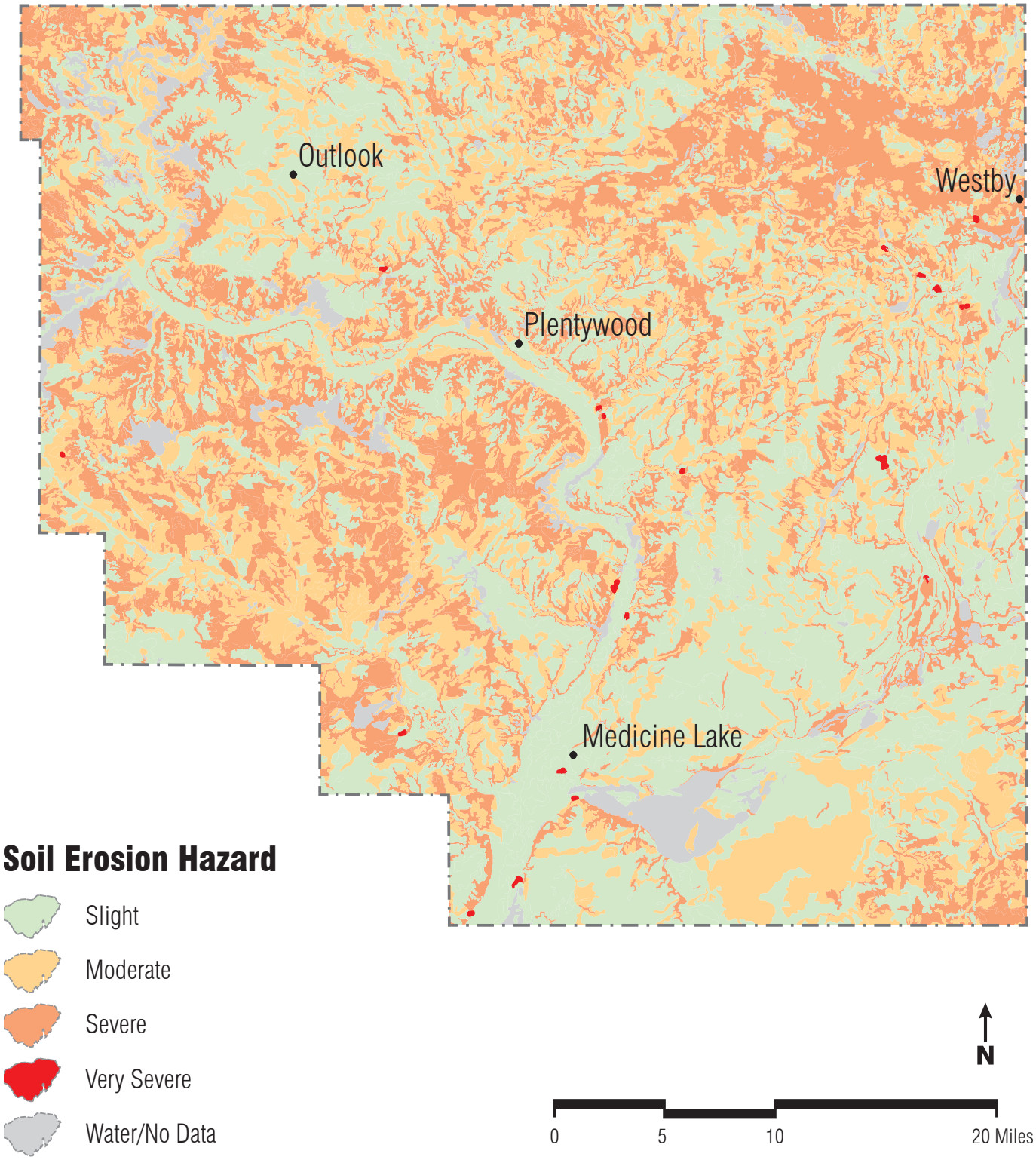
In Sheridan County much of the land is underlain by the Fort Union formation at relatively shallow depths. This or some other restrictive layer provides the impermeable layer.



*Sheridan County Existing Land Use and Land Cover*



*Soil Erosion Hazard Areas*



Most of the county is covered by glacial till which has a high soluable salt content These two factors along with the farming practices being used, make county land susceptible to the saline seep. Research is being done on methods to control saline seep, and the most obvious method is to change cropping systems, such as reducing large fallow areas or by planting crops which use more of the excess moisture.

### Soil Erosion

Soil erosion is another problem associated with the agricultural uses of land in Sheridan County. Susceptibility to erosion is determined by soil characteristics such as slope, permeability, surface texture and plant cover.

Soils with severe water erosion hazards are generally the steep to very steep soil where the Fort Union formation has been exposed, mainly along the upper Big Muddy drainage. An approximately 15-mile stretch of land west of Westby is also noted to have a severe erosion hazard. The Land Use and Land Cover Map shows this area as predominantly mixed rangeland. Since these areas are used for grazing, intensive management of the grass cover is essential to minimize erosion.

The sandy soils in the south and eastern parts of the county are very susceptible to wind erosion, particularly during periods of low rainfall. When these areas are cultivated, measures should be taken to reduce the effects of the wind by using narrow strip cropping, shelterbelts or tall grass barriers.

### Soil Fertility

It has been at least 90 years since the land was broken up for farming in Sheridan County. Because of the extractive nature of large scale farming, the soil is gradually losing its fertility. Although our soils are still relatively fertile and our crop yields depend primarily on moisture and weather conditions, the use of fertilizer along with improved wheat varieties has played an important role in increasing crop production in the county.

The principal fertilizers used in this area are nitrogen and phosphorus. Because large amounts of energy are required for the manufacture of nitrogen fertilizers, the cost rises proportionately to rising energy costs. At some point the cost of using chemical fertilizers may become prohibitive or the energy used in the production of fertilizers may be allocated for more pressing short term needs such as home heating, which would make fertilizer supplies unavailable. Alternative methods of increasing soil fertility which may have to be used could include the rotation of nitrogen-fixing legume crops or increasing the return of organic residues to the soil through improved mulching practices or increased manure spreading.

## Rangeland

There are about 327,826 acres of rangeland in Sheridan County. This accounts for about 30 percent of the total land area in the county. About 15,000 acres of this rangeland are not being used for the production of cattle where these areas are intermingled with cropland, are irregular in shape, and are not economical to fence.

It is estimated that in its present condition, the rangeland, excluding the 15,000 acres of non-use rangeland, will provide approximately 71,381 animal-unit months of grazing. With proper range improvement practices, it is estimated that this figure could increase to 89,000 animal-unit months of grazing.

Range condition is the present composition of vegetation of a range site in relation to the potential plant community for that site. Heavy use over a long period of time reduces the vigor of the plants and may result in their elimination. Grazing animals are selective, and grazing pressure is heaviest on the most palatable plants. Plants will be grazed out if overuse of the range areas is prolonged.

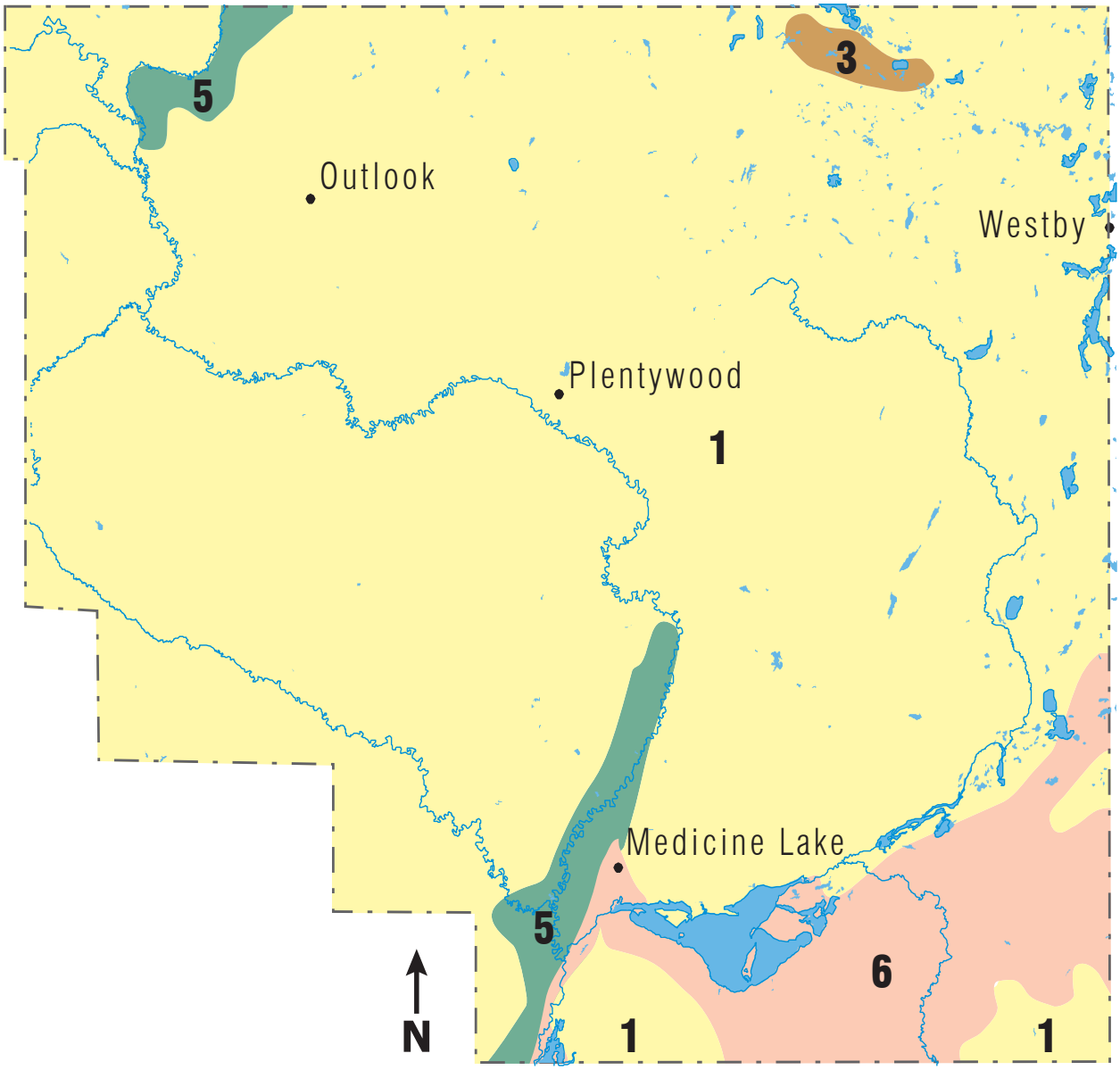
The map at right indicates the four rangeland types found in Sheridan County. Listings of plants in the first column under each range site indicate the highest natural composition of native range plants. The variety of these native plants generally decreases with overgrazing. The second column of plants listed indicates plants which are generally less palatable and increase under heavy grazing.

Different grasses have different seasons of growth and seed bearing. A healthy abundant variety of grasses and plants ensures good grazing conditions throughout the year. Grazing pastures at the same time each year will eliminate certain grasses and reduce the variety of vegetative cover, which in turn will reduce the carrying capacity of the rangeland.

Overgrazing reduces the plant variety and overall vegetative cover. The lack of good cover will reduce the amount of snow collected for spring moisture requirements and generally exposes the plants to harsher climatic conditions. Once the range has deteriorated due to overgrazing, it requires many years of careful management to return it to optimum productivity.

Grazing management systems such as rest-rotation or simply rotating the grazing seasons can improve grassland productivity. Fencing, stock water development, and other range improvements provide for a more even distribution of grazing and can be used to improve the condition of the rangeland.

*Sheridan County Rangelands*




**Wildlife**

Along with supporting livestock, rangeland provides much of the habitat for a variety of wildlife in Sheridan County. Big game animals found in the county include whitetail deer, mule deer, and antelope, with whitetail deer predominating. The variety of agricultural land use in the county provides excellent habitat for upland game birds such as Hungarian partridge, sharptail grouse, and Chinese pheasant. The Medicine Lake Wildlife Refuge and the numerous small lakes and ponds provide habitat for raising a variety of waterfowl and furbears as well as providing resting and feeding areas for migratory birds.

Hunting and fishing provide recreation for many of Sheridan County's residents as well as others in Montana and out of state. Game animal populations fluctuate with the weather, disease, and hunting pressure. The increase in oil exploration activity has also disturbed many wildlife habitats.

Private lands provide much of the game habitat and with the increase in hunting pressure in the last few years, hunter-landowner relationships have deteriorated. The increase in fur prices has increased the hunting and trapping of furbearers in the county. Large, out-of-state fur trapping operations have

*Climax Vegetation Based On Soils Climate*

| | Dominants in Climax Vegetation | Plants Increasing with Grazing Pressure |
|---|---|---|
| 1 | Silty Range Assocation - 10-14" Precipitation Zone: | |
| | Needleandthread | Blue Grama |
| | Western and thick spike wheatgrass | Needleandthread |
| | Green needleg rass | Sandberg bluegrass |
| | Little bluestem | Prairie junegrass |
| | Prairie junegrass | Threadleaf sedge |
| | Porcupinegrass | Silver sagebrush |
| | blue grama | Clubmoss |
| | Native legumes | Fringed Saqewort |
| | Silver sagebrush | Other weedy forbs |
| | Western snowberry | Annuals |
| | Winterfat | Plains pricklypear |
| 3 | Clayey and Shallow Clay Range Association - 10-14" Precipitation Zone: | |
| | Western and thickspike wheatgrass | Sandberg bluegrass |
| | Green needlegrass | Blue Grama |
| | Little bluestem | Prairie junegrass |
| | Prairie junegrass | Plains reedgrass |
| | Biscuitroot | Silver sagebrush |
| | Milkvetch | Curlycup gumweed |
| | American vetch | Eriogonum |
| | Silver sagebrush | Bisquitroot |
| | Winterfat | Onion |
| | | Other weedy forbs |
| | | Annuals |
| | | Plains pricklypear |
| 5 | Saline Lowland Range Association - 10-14" Precipitation Zone: | |
| | Western and thickspike wheatgrass | Inland saltgrass |
| | Alkali sacaton | Greasewood |
| | Alkali cordgrass | Foxtail barley |
| | Slender wheatgrass | Bottlebrush squirreltail |
| | Nuttall alkaligrass | Tumblegrass |
| | Inland saltgrass | Poverty sumpweed |
| | Canada wildrye | Belvedere summercypress |
| | Sedge | Other weedy forbs |
| | Greasewood | Annuals |
| | Nuttall saltbush | Rabbitbrush |
| 6 | Sands and Sandy Range Association - 10-14" Precipitation Zone: | |
| | Prairie sandreed | Needleandthread |
| | Needleandthread | Threadleaf sedge |
| | Indian ricegrass | Sand dropseed |
| | Little bluestem | Scrufpea |
| | Sand bluestem | Green sagewort |
| | Sun sedge | Fringed sagewort |
| | Native legumes | Field sagewort |
| | Skunkbush sumac | Cudweed sagewort |
| | Threadleaf sedge | American licorice |
| | Sideoats grama | Other weedy forbs |
| | Western and thickspike wheatgrass | Plains pricklypear |
| | Native legumes | Blue grama |
| | Blue grama | Red threeawn |
| | Rose | Rose |
| | | Annuals |

severely reduced the furbearer population in the county and have led to the recent enactment of state laws to restrict the operations of out-of-state trappers and hunters. Although government agencies manage game animal numbers through hunting permits, private landowners generally know more about local game populations and should be encouraged to restrict hunting pressure when it becomes too great.

Overgrazing and block farming reduce the amount of wildlife habitat available and agricultural landowners should be encouraged to consider wildlife habitat needs when changing land use practices.

## Urban Land Use

Urban development accounts for a small percentage of the total land use in the county, with roughly 2,270 acres of land being within the municipal boundaries of towns and cities. The conversion of land to urban uses has remained stable in the last few years.

A future increase in urban growth, however, may be attributed to population increase and economic growth associated with the oil boom. Urban growth has been concentrated in those areas where adequate services are available, primarily Plentywood, Medicine Lake and Westby. With an increase in oil activity, urban growth throughout Sheridan County may expand considerably. It has taken some time for the local economy to absorb the expansion created during the previous boom. When oil prices begin rising we can expect increased oil development and many of the needed services and facilities, once in place, may need to be increased to accommodate even moderate urban growth.

Because of the transitory nature of employment in the oil fields, there is a greater demand for rental housing units and mobile home spaces as compared to permanent residential structures. On the other hand, Plentywood's two existing trailer courts were filled to capacity during the 1980's oil boom. Should activity increase, there will be a need for greater RV and mobile home rental capacity. In Medicine Lake and Westby, most of the vacant lots and existing trailer courts are filled with mobile homes or RVs. The future demands created by oil development for housing will depend, in part, on the town's location in relation to the new fields being developed.

With this rapid urban growth, or the prospect of its resumption, there is a need for comprehensive policy to insure that the spread of development is orderly and in the best public interests. Some of the problems created by this rapid development may include conflicts between different adjoining land uses; commercial and residential strip development along the highways may not leave access for future development of the property behind them; and the building of scattered non-agricultural residences in rural areas will increase public costs for road maintenance, school transportation, and police and fire protection, as well as private energy costs.

Alternate fuels will have to be developed to replace petroleum fuels; however, costs will probably increase. Sheridan County is almost completely dependent on automotive transportation, and it is difficult to conceive of any alternative forms of transportation in our sparsely populated area. To promote the reduction of transportation costs and the costs of extending public services, urban growth patterns such as highway strip development and urban sprawl should be discouraged with support given to concentrating new residential development around central business districts and centrally located community facilities and services.

Considering these factors and the potential for increased population growth, there is a need for a comprehensive policy to manage urban growth in Sheridan County. With a land use plan, potential urban areas would be zoned for specific uses to minimize conflicting adjacent land uses. The adoption of an urban land use policy would ensure that consideration is given to provide proper access for streets, and sewer and water facilities; and that consideration is given to the conservation of resources by encouraging developments to locate in proximity to existing schools, public facilities and community services. Such a land use policy would have to take care that it does not discourage rural development and increase the isolation of rural areas.

In developing a land use plan for urban growth, a number of factors must be considered. Along with ensuring compatibility with adjacent land uses and the provision of services, a primary ingredient in determining the basis for land use decisions is the suitability of the soils and landforms for different kinds of development.

Tables presented in the Soil Survey of Sheridan County list the local soil types and their suitability for a variety of uses. Factors which would limit development include flooding, high water tables, steep slopes, excessive shrink-swell, frost heaving and poor absorption where development is not served by a public sewer system.

Another factor which should be considered is the suitability of the land compared to its most desirable use. This distinction should be based on the physical characteristics of the land. The question of whether or not highly productive cropland should be developed for urban uses is a continuing challenge for county leaders. Developing prime agricultural land for urban use may

reduce the general productivity of the land. Issues of individual property rights as opposed to the good of the community, i.e. greater costs in the form of increased road maintenance, water pollution from septic tanks, solid waste disposal problems, or reduced agricultural productivity, create questions all rural counties must face.

The most common method of managing urban growth in densely populated areas is through land use controls, primarily zoning. Sheridan County is sparsely populated and has almost unlimited area for urban growth, but the point to be made is that random, undirected urban growth leads to land use conflicts, health and safety hazards, and generally increased costs to the public. To lessen these problems, orderly urban growth should be encouraged in Sheridan County through the use of flexible land use controls which are compatible with community needs and values.

Sources

Sheridan County Conservation District, Long Range Plan, Montana, 1976

Billings Gazette, January 1980, Billings, Montana

Montana Agricultural Statistics, Montana Department of Agriculture and Montana Crop and Livestock Reporting Service, Helena, Montana

Sooter, Tad, "Western Montana Growers Go Beyond Organics and Get Local", New West, 04/19/2006, http://www.newwest.net/index.php/city/article/7778/C8/L8

Climax Vegetation of Montana, USDA, Soil Conservation Service, Bozeman, Montana 1976

Soil Survey of Sheridan County, USDA, Soil Conservation Service, June 1977

## Population

It has been stated that the most important asset of any community is its people. An analysis of the composition, characteristics and trends of an area's population forms a base for planning efforts and influences planning decisions. As changes in population take place, the impact of these changes must be evaluated and provisions made to meet the needs of changing population. In particular, population changes indicate the demand for future facilities and serve as an indicator of changes which may occur.

### Population Change

Sheridan County, like most rural areas in eastern Montana continues to have a declining population. This declining trend has continued unchecked since the 1920 census when there were 13, 847 people living in the county. The county's population rapidly declined from 1920 to 1950. The lowest recorded rate of decline, during the 1950's can be attributed to the post-war baby boom and a decade of relative prosperity for agricultural producers. During the 1960's the rate of population loss was around ten percent and even with the oil boom during the 1980 census, the county's population declined 6.3 percent. From 2000 to 2010, the rate of decline once again increased, reaching 17% .

The single most important factor contributing to the decline in population can be attributed to a lack of employment opportunities in agriculture. The increase in farm size and farm mechanization has reduced the need for people working on the land. This in turn reduces the need for persons employed in services to support a larger population. The largest outmigration generally occurs in the 15-19 and 20-24 year old age groups.

### Population Characteristics

An analysis of the existing population can be useful for indicating the future demand for public facilities such as schools, health care, and housing. A general lack of adults at the key working ages (20-44) indicates the outmigration of college-aged and young professional population segments. An increase in the 0-4 age group points to a gradual increase in future school enrollments, and the higher percentages of females in the 65+ age group reflects the higher mortality rate among older men.

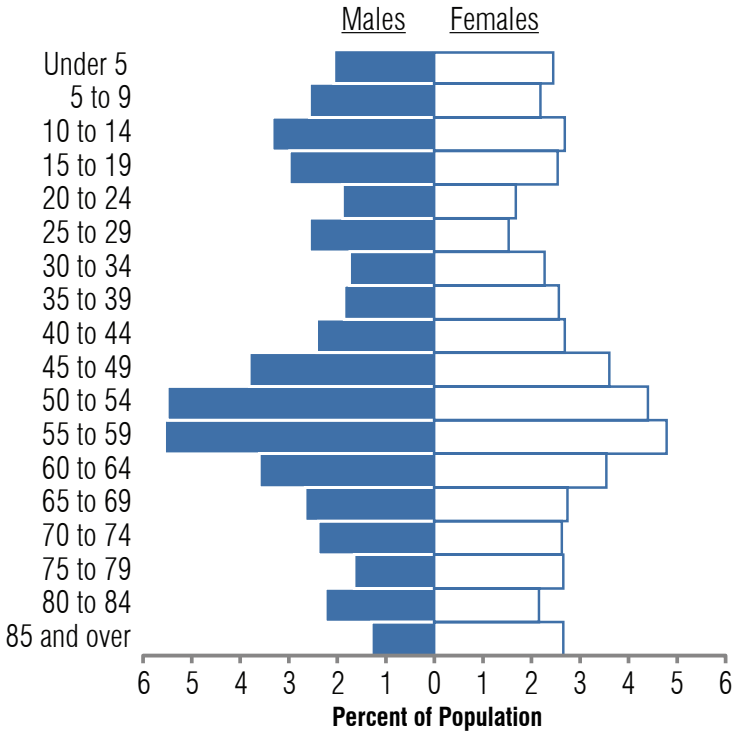
The faster population decline during the last two decades can probably be attributed to the lack of agricultural, construction and service sector employment opportunities. The decline has been even between rural and urban areas. In 2009, 63% of the county's people lived in incorporated towns as compared to 60% in 1980. Plentywood continues to the highest share of the county's population. In 2009, 51% of county residents lived in Plentywood compared to 45% in 1980 and 28% in 1950.

*Sheridan County Population, 1920-2010*

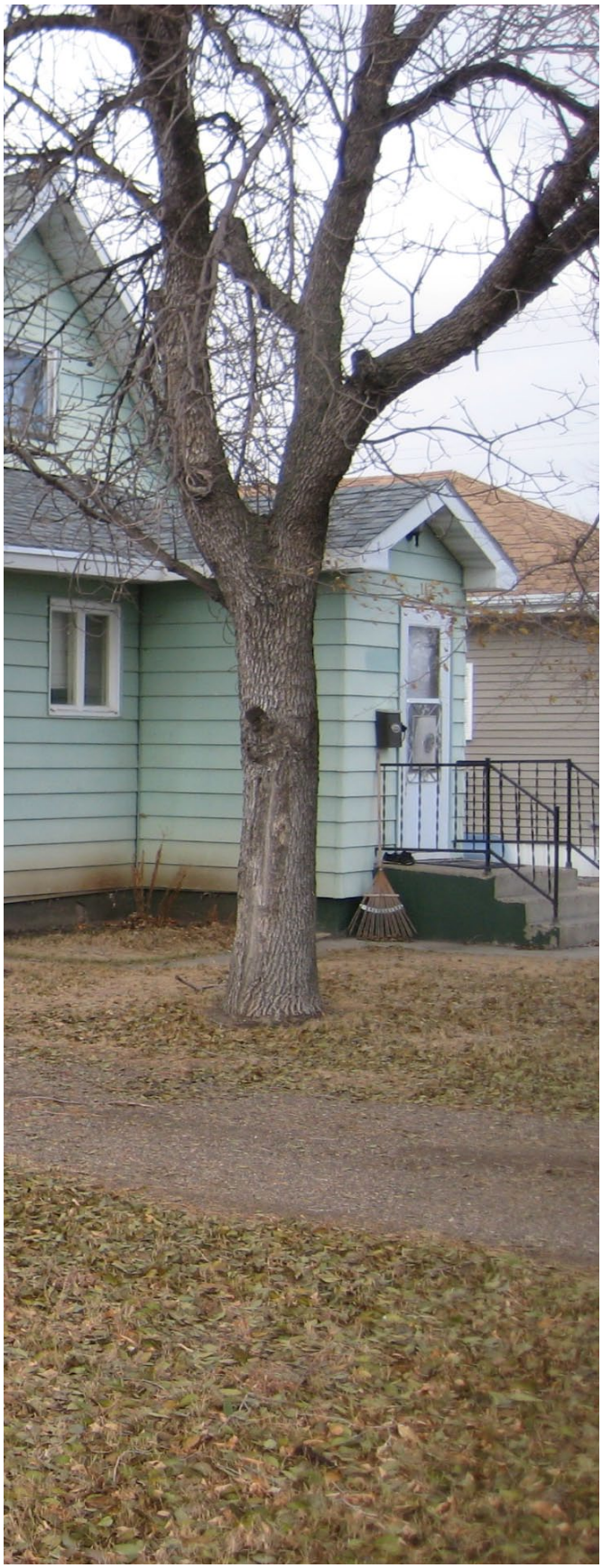
| Year | Sheridan County | Percent Decline | Plentywood | Medicine Lake | Westby |
|---|---|---|---|---|---|
| 1920 | 13,847 | - | 888 | 292 | 253 |
| 1930 | 9,869 | -28.7% | 1,226 | 384 | 287 |
| 1940 | 7,814 | -20.8% | 1,574 | 396 | 369 |
| 1950 | 6,674 | -14.6% | 1,862 | 454 | 396 |
| 1960 | 6,458 | -3.2% | 2,121 | 452 | 309 |
| 1970 | 5,779 | -10.5% | 2,381 | 393 | 287 |
| 1980 | 5,414 | -6.3% | 2,476 | 408 | 291 |
| 1990 | 4,732 | -12.6% | 2,136 | 357 | 253 |
| 2000 | 4,105 | -13.3% | 2,061 | 269 | 172 |
| 2010 | 3,384 | -17.6% | 1,734 | 225 | 168 |

Source: US Decennial Census

*Population Structure by Age and Sex, 2010*




Source: US Census SF1 2010



## Housing

Housing is one of the basic human needs, especially in our area of climatic extremes. The construction of conventional frame houses originated in the late 1800's and has since become the primary type of housing in America. The ability to use mass production techniques, inexpensive materials and the quick construction time has made frame construction the standard across the nation. The use of the automobile and inexpensive fuels has given incentive to the growth of subdivisions and tract houses throughout the country, and has allowed a high standard of living for most all Americans. We have now reached a time where these patterns and methods of growth are using up our available supplies of fuel, lumber, and other natural resources. The increasing costs, the lack of resources, or both, will eventually demand a change in construction methods and residential development patterns. High gasoline costs and/or shortages will require that housing patterns be more compact, nearer community centers, and more suited to mass transportation requirements. The increasing costs of resources will require greater efficiency in providing public improvements such as water, sewer, and streets.

The increasing costs of home heating will require that housing have tighter construction and better insulation, and that the housing design be more suited to the conditions of the local environment. The use of windbreaks and window placement for solar heating gain can significantly increase the heating efficiency of conventional housing. New earth sheltered and solar-designed housing can reduce home heating costs to minimal levels. The use of more durable and locally available building materials can reduce construction, maintenance, and housing replacement costs.

### Existing Conditions

The average house in Sheridan County in 2012 is a frame structure, built around or before 1940, has five rooms, is heated by fuel oil or LP gas, and has an average of 2.08 people living there.

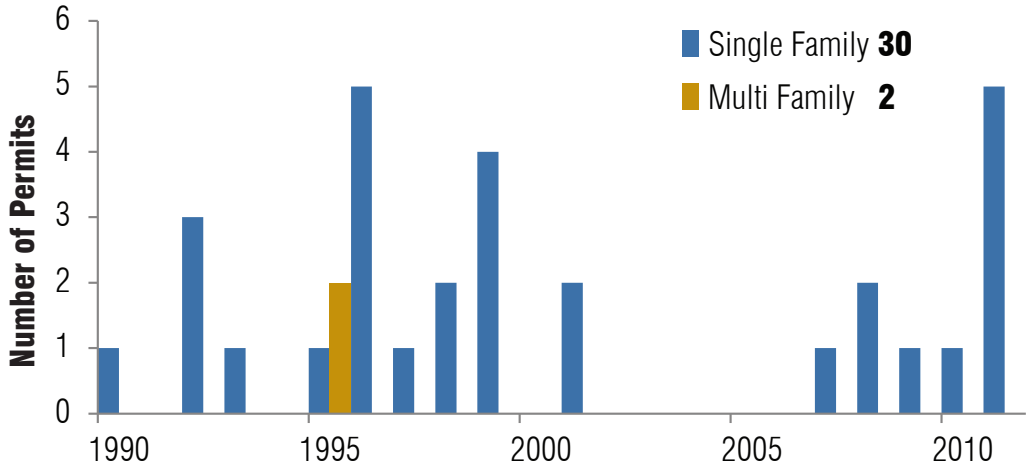
Even though the county's population declined 17 percent in the last decade, the housing supply only decreased by 4 percent. These figures indicate an excess of underused housing, which is also indicated by the estimated 426 vacant housing units in the county. Counts from the 2010 census indicate that there are 78 fewer housing units in the county than there were in 2000, however many of the newest units have yet to be accounted for or completed. The table opposite indicates the housing distribution in the county, the change in the number of housing units, and the number of occupied and vacant housing units.

*Sheridan County Housing Units*

| | Total Housing Units | Occupied Units | Vacant Units |
|---|---|---|---|
| **2000** | | | |
| Sheridan County | 2,167 | 1,741 | 426 |
| Plentywood | 1,020 | 857 | 163 |
| Medicine Lake | 165 | 120 | 45 |
| Westby | 121 | 88 | 33 |
| **2010** | | | |
| Sheridan County | 2,089 | 1,587 | 502 |
| Plentywood | 972 | 820 | 152 |
| Medicine Lake | 167 | 109 | 58 |
| Westby | 114 | 82 | 32 |
| **Percent Change** | | | |
| Sheridan County | -4% | -9% | 18% |
| Plentywood | -5% | -4% | -7% |
| Medicine Lake | 1% | -9% | 29% |
| Westby | -6% | -7% | -3% |

Source: US Census SF1 2000, 2010

*Sheridan County Residential Building Permits, 1990-2010*




Source: US Census Censtats Building Permits Database

*Structural Housing Characteristics, Sheridan County*

| **Item** | Number |
|---|---|
| **Total Housing Units** | 2,101 |
| 1-Unit, Detached | 1,639 |
| 1-Unit, Attached | 24 |
| 2 Units | 13 |
| 3 or 4 Units | 93 |
| 5 to 9 Units | 88 |
| 10 to 19 Units | 18 |
| 20 or More | 36 |
| Mobile Home or Trailer | 190 |
| **Year Structure Built** | |
| 2005 or later | 11 |
| 2000 to 2004 | 30 |
| 1990 to 1999 | 116 |
| 1980 to 1989 | 223 |
| 1970 to 1979 | 283 |
| 1960 to 1969 | 336 |
| 1950 to 1959 | 288 |
| 1940 to 1949 | 281 |
| 1939 or earlier | 533 |
| **Facilities That Lack:** | |
| Complete Plumbing Facilities* | 0 |
| Complete Kitchen Facilities | 10 |
| Available Telephone Service | 48 |

*Large margin of error reported due to non-response rate
Source: US Census Physical Housing Characteristics 2010

The loss in population numbers and population per household figures may be somewhat deceptive in that retired persons away on winter vacations during the census count are not included in the figures although they do maintain homes here. Despite this decline, Medicine Lake has added about two units, the only town to do so. The City of Plentywood shows the largest decrease with a loss of 48 residential units. Westby shows the most rapid decline in housing with a six percent decrease. Medicine Lake's two-unit increase in housing compares to a 20 percent decline in population. Plentywood's housing decrease of five percent translates to a 19 percent decrease in population over the ten year period. These figures point to the continued relative decline of rural areas.

The focus of residential growth is in and around Plentywood. Building and occupancy permits issued by the City of Plentywood since 1990 indicate new housing growth trends related to real estate market cycles.

These figures do not reflect the growth in motel units, the increase in rental units in trailer courts within the city, or the number of housing units removed or replaced.

The age and condition of housing indicates the adequacy of existing housing and the number of houses that will be needed in the future. One quarter of the residences in Sheridan County were constructed prior to 1939. The number of older houses is an indication of housing which is or can be expected to be substandard in the future.

*Housing and Heating Fuel Type, Sheridan County*

| | Tank or LP Gas | Electricity | Fuel Oil, Kerosene, etc. | Other Fuel | Utility Gas | Wood | Coal or Coke | No Fuel Used | Solar Energy |
|---|---|---|---|---|---|---|---|---|---|
| Sheridan County | 49.3% | 25.9% | 16.5% | 3.0% | 2.5% | 1.6% | 0.6% | 0.6% | 0.0% |
| Montana | 12.9% | 18.8% | 1.9% | 1.1% | 56.5% | 8.3% | 0.2% | 0.2% | 0.1% |

Source: US Census ACS 2010

Inflation, the increasing labor and material costs, and more recently, the increase in home values related to the housing shortage in nearby oil areas make it more difficult for prospective home owners to buy or build conventional housing. Because of this, there is a trend toward less expensive housing in the form of rental units, RVs, and mobile homes. This trend is reflected in the growth of the number of mobile homes (9%) and three to nine unit apartment houses (8.6%) within the county. More recent data is likely to indicate even larger growth in RV and mobile home units.

The almost exclusive use of LP gas and expensive fuel oil indicates the high costs of home heating in Sheridan County. As the costs of these fuels increase it can be expected that more alternative sources will be used. The high costs and the need for conservation will force many homeowners to consider switching to supplemental or exclusive home heating with wood, coal, methane or solar heating. A commercial supply of natural gas to the area would add convenience and reduce the costs of home heating in Sheridan County, and efforts should be made to encourage any alternatives to expensive imported fuel oil and LP gas.

## Housing Needs and Projected Demands

During the last oil boom, housing was in considerable demand, and the current boom is no different. As is the case in most energy impacted communities, housing must have immediate and continued attention if the residential development that takes place is to be provided when it is needed, where it is most easily served, and in a manner that will benefit the community. The county wishes to avoid the rapid expansion of temporary housing, with little thought to the provision of services, transportation issues and long-term feasibility of the development.

In Sheridan County the supply of housing units did not keep pace with the demand associated with the generally transient workforce accompanying oil development. The greatest shortage was in the availability of rental spaces for mobile homes, which in turn increased the demand for rental units and apartments. Following the sudden downturn in oil activity there was a surplus of apartment rentals and without that higher economic growth rate, it took several years to absorb the rental housing surplus. Currently, the shortage of affordable rental housing in the county has created disruption in the jobs/housing balance, with low and moderate income workforce having few housing options.

Existing projects include an 16-unit multi-family project in Plentywood. A new residential subdivision two miles west of the City of Plentywood includes three large lots (20, 15, and 34 acres) and may provided available building sites for new homes. Other proposed projects include a 197-unit RV park on the Westby hill and a 20-unit RV park nearby.

To house their employees, some oil companies have installed man camps near drilling sites, such as the one northwest of Westby to accommodate oilfield workers.

In order to predict the future needs for housing, a detailed study would be needed of the existing structures as to the age, condition, location, and type of housing; and a determination made as to expected future demands. No studies have been done to accurately determine the needs for future residential development but based on existing trends, it can be expected that Plentywood's housing demand will continue to increase and with even small increases in population, the housing supply will rise substantially, although inflation, interest rates, and rising building costs may moderate growth somewhat.

As the incorporated areas of Plentywood and the rest of Sheridan County continue to grow, steps should be taken to encourage orderly growth and. reduce the conflicts that arise with the conversion of agricultural land to urban use. At the same time, as energy and resource costs increase, growth must be encouraged which conserves energy, and efforts made to encourage patterns of growth which will not be a future liability to public as well as private resources.

Sprawling and scattered residential developments increase the costs of providing roads, streets, sewer and water, utilities and school transportation. This type of development may also break up the continuity of agricultural lands and reduce their productive capabilities. Development which is contiguous to existing towns is more easily served by public facilities, and it provides for the orderly expansion of urban areas.

New residential development should also be relatively isolated from heavy traffic and industrial areas which may be a nuisance or create health or safety hazards. At the same time, the expansion of residential areas should be in a manner that does not create conflicts with established nearby land uses such as agricultural operations.

Another factor which should be considered in residential or any other kind of development are soil conditions and their suitability for development. Areas that are subject to flooding, have high water tables, or have unstable soils all increase the costs of maintaining structures and generally present health or safety problems. Altering drainage patterns or the increased runoff from paved and open surfaces may flood or damage adjacent property. Poorly drained and impermeable soils increase the difficulty of sewage disposal and may create health problems

when not served by a public sewer system. Unstable soils which may frost, heave, slip, shrink-swell, or poorly compact, increase the costs of maintaining streets and foundations for structures. Soil conditions and suitability is another factor which must receive necessary consideration if we are to have growth.

Past houses were poorly insulated and located and were built with little regard to the effects of wind, sun, or weather. Many houses constructed today continue to ignore these important environmental factors. The location and size of windows, shade, wind exposure, and heat retention of structures are all factors which affect the heating and cooling efficiency of buildings.

Sources:

US Census Censtats Building Permits Database, 1990-2010

US Census Bureau, General Housing Characteristics, 2000-2010

ESRI ArcGIS Resource Center, World Imagery basemap: http://resources.arcgis.com/content/local-government/basemaps

## Economy

Energy resources has always played a key role in Sheridan County's economy. Oil development activity has increased employment in mineral development areas, retail sales, services, and construction trades. Lease sales, easements and royalty payments have added to farm incomes and helped support the lagging agricultural economy. The higher costs for energy which spurred the oil boom also increases the costs of finished goods delivered to our isolated area and reduce the prices received for agricultural products and raw materials. The double-edged impact of energy development and high energy costs has affected all sectors of Sheridan County's economy, and our future prosperity will be heavily influenced by how the county responds to energy market fluctuations.

Although oil development has received the most attention, agricultural production is the renewable resource that has shaped Sheridan County's past, and it will continue to be the primary support for the county's economy.

An analysis of the economy is an important item in identifying the factors that contribute to the health and weaknesses in the economic activity of the area. The purpose of this economic section is to provide community understanding of the factors which shape Sheridan County's economy. The goals and objectives of the county government must consider economic factors since they are the primary force behind community growth, change and improvement.

### Employment

A simplified theory of employment is that a favorable economic climate encourages the migration of workers to the area with a consequent increase in employment. Conversely, if the economy is not favorable, increased unemployment occurs and people migrate out of the area. The employment figures in the next two tables give some indication of these trends; with a 4.3 percent decrease in total employment between 2002 and 2010 correlating to a 17.5 percent population decline during the same period. Between 1970 and 1980 the population declined by 6.3 percent but employment increased by 21 percent.

The employment by occupation and industry shown in the following tables reflect the increasing importance of mineral development and the dominance of the agricultural economy in the County. However, there has been a steady decline in agricultural employment in the county as well as the state overall. All job figures are estimates from the US Census LEHD program.

From 2002 to 2009 agricultural employment declined 35 percent, yet regained 14 jobs in 2010 to record no change over the eight

*Employment by Industry, Sheridan County*

| | 2002 | 2009 | 2010 | Percent Change 2002-2010 |
|---|---|---|---|---|
| Total Employment | 1,148 | 1,117 | 1,099 | -4.3% |
| | | | | |
| Agriculture and Natural Resources | 40 | 26 | 40 | 0.0% |
| Manufacturing, Wholesale, Transportation | 120 | 170 | 132 | 10.0% |
| Retail | 146 | 149 | 172 | 17.8% |
| Financial and Professional | 63 | 63 | 58 | -7.9% |
| Professional and Information | 52 | 52 | 57 | 9.6% |
| Management and Administration | 138 | 148 | 157 | 13.8% |
| Education | 182 | 107 | 142 | -22.0% |
| Health Services | 255 | 254 | 253 | -0.8% |
| Recreation and Hospitality | 152 | 148 | 88 | -42.1% |

Source: US Census LEHD 2010

year period. Recreation and hospitality employment decreased the most, with a loss of 64 positions. Forty jobs were also lost in the education sector, with financial and professional work also losing five jobs. The retail sector experienced the most growth, adding 26 jobs between 2002 and 2008. The management and administration, manufacturing and transportation, and professional or information sectors also grew. Overall employment is down 4.3%, or 149 jobs.

The "Labor Force and Unemployment" table indicates the estimated labor force and average annual unemployment rate, which reflects the ups and downs of Sheridan County's economy following the oil industry. The higher unemployment rate in the late 2000's is a result of the global economic recession. Stabilizing unemployment and the increased labor force up to 2011 may indicate a coming job boom.

Bureau of Labor Statistics figures for 2011 show a workforce of 1,846, about even with 2008 numbers despite a deep decline around 2010. This shows the unstable nature of local, and to an extent, oil field employment, as labor force peaks correspond with levels of oil production.

Horizontal drilling will require more technology for bringing wells into production. The eventual scarcity of oil will require more secondary and tertiary recovery of depleted oil fields and a more stable workforce than that needed for exploration activity.

## Personal Income

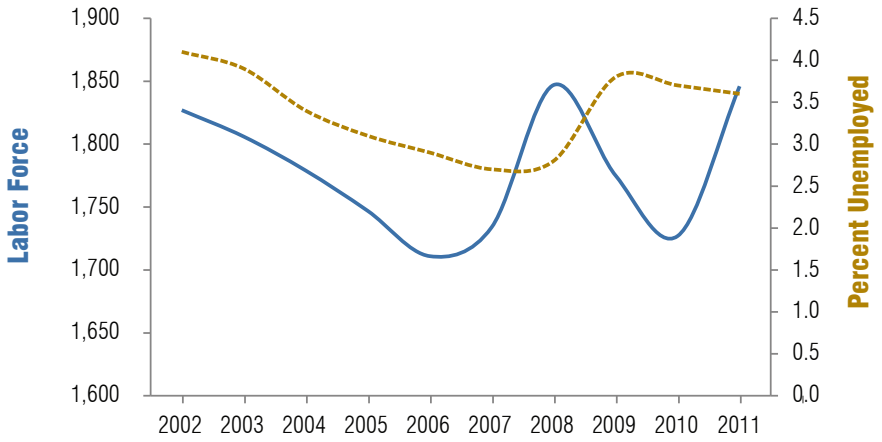
All sources of personal income in Sheridan County, except manufacturing, management and administration and some other services, have shown steady increases in recent years. Agricultural incomes, dependent on fluctuating commodity markets, have also grown every year except from 2005 to 2006 when income decreased 78%. Farming has not been the largest single source of personal income in Sheridan County since 1975. The general category of non-farm income has outweighed the total incomes derived from farming. Major sources of nonfarm income are retail trade and professional, scientific or technical services. (See table: "Employment by Industry, Sheridan County").

The steady growth in non-farm incomes indicates the built-in response to inflation for wages and salaries, and for non-farm businesses in general. On the other hand, the wide fluctuations in farm income indicate the instability of farm revenue sources and the need for greater stability in maintaining farm incomes.

According to the 2010 census, the median personal income in Sheridan County was $22,614. The median income for families was $55,313. In 2010, 495 people, or 14.5 percent of the county's population had incomes below the poverty level as compared to 713 people or 13.5 percent in 1979. The unemployment rate in the City of Plentywood is slightly lower at 13.9%, while the county figure is comparable to the statewide rate.

In 2010, the federal government listed the poverty threshold at $23,018 for a family of four using a weighted average based on the average annual Consumer Price Index for All Consumers (CPI-U). Persons with incomes less than 125 percent of the poverty level are eligible for food stamps, and those with incomes less than 133 percent of poverty level are eligible for

*Labor Force and Unemployment, Sheridan County*




| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Labor force** | 1,827 | 1,806 | 1,779 | 1,747 | 1,711 | 1,734 | 1,847 | 1,775 | 1,727 | 1,846 |
| **Unemployment Rate** | 4.1 | 3.9 | 3.4 | 3.1 | 2.9 | 2.7 | 2.8 | 3.8 | 3.7 | 3.6 |

Source: US Bureau of Labor Statistics

*Personal Income*

| **Description** | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|
| Personal income (thousands of dollars) | 103,496 | 100,004 | 116,883 | 141,307 | 145,827 | 157,212 |
| Per capita personal income | 28,966 | 28,516 | 33,694 | 41,745 | 43,055 | 46,457 |
| Proprietors' income | 17,047 | 9,253 | 17,636 | 27,956 | 35,651 | 43,890 |
| Farm proprietors' income | 9,047 | (193) | 8,629 | 18,647 | 26,976 | 34,448 |
| Nonfarm proprietors' income | 8,000 | 9,446 | 9,007 | 9,309 | 8,675 | 9,442 |
| Earnings by industry | | | | | | |
| Farm earnings | 11,823 | 2,551 | 11,763 | 21,643 | 30,378 | 37,661 |
| Nonfarm earnings | 47,362 | 50,755 | 53,381 | 58,789 | 57,796 | 60,252 |
| Private earnings | 30,977 | 33,814 | 35,741 | 40,631 | 39,128 | 39,963 |
| Forestry, fishing, and related activities | (D) | (D) | (D) | (D) | (D) | (D) |
| Mining, oil, and gas extraction | (D) | (D) | (D) | (D) | (D) | 1,011 |
| Construction | 1,652 | 1,976 | 3,968 | 4,503 | 4,374 | 2,738 |
| Manufacturing | 347 | 427 | 474 | 460 | 467 | 50 |
| Wholesale trade | 2,242 | 2,375 | 2,663 | 3,055 | 3,124 | 2,883 |
| Retail trade | 3,367 | 3,598 | 3,643 | 4,023 | 4,555 | 5,327 |
| Transportation, warehousing, and utilities | (D) | (D) | (D) | (D) | (D) | (D) |
| Information | 647 | 696 | 716 | 741 | 718 | 823 |
| Finance, insurance, and real estate | (D) | (D) | 2,812 | 3,256 | 3,380 | 3,701 |
| Professional, scientific, and technical services | 1,727 | 2,336 | 1,686 | 1,899 | 1,847 | 2,139 |
| Management, administrative, and waste management services | 524 | 520 | 453 | 231 | 226 | 238 |
| Educational, healthcare, and social services | (D) | (D) | (D) | (D) | (D) | (D) |
| Hospitality, recreation, and entertainment | 1,924 | (D) | (D) | (D) | 1,999 | 2,078 |
| Other services, except public administration | 3,378 | 3,482 | 3,591 | 3,081 | 3,153 | 3,324 |
| Government and government enterprises | 16,385 | 16,941 | 17,640 | 18,158 | 18,668 | 20,289 |
| Federal, civilian | 6,257 | 6,809 | 6,843 | 7,347 | 7,490 | 8,700 |
| Military | 672 | 617 | 632 | 720 | 813 | 793 |
| State and local | 9,456 | 9,515 | 10,165 | 10,091 | 10,365 | 10,796 |

(D) Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

medical assistance. Poverty level incomes determine eligibility for a variety of welfare programs such as home weatherization, disadvantaged youth programs, and fuel bill assistance. Poverty level income definitions vary with the programs and with such factors as disabilities, dependents, age, and adjustments for farm residents.

## Retail, Wholesale, and Selected Services

In Sheridan County the centralization of business and services can be seen in the growth of the City of Plentywood. The rural populations which have supported small businesses in rural communities have been declining since the 1920's, and the improvement of roads and transportation has allowed Plentywood to become the center of commercial activity for Sheridan County. The centralization of commerce, in turn, draws the rural population to Plentywood for employment and the general conveniences of urban living.

The oil boom has given new life to businesses in the smaller towns but at the same time farm populations, and the agricultural economy in general, continue to decline. The influx of oil money has provided a much needed economic stimulus to Sheridan County businesses, but when the oil runs out, it can be expected that economic activity in small rural towns will decline rapidly, with a further consolidation and centralization of the area's business activity in Plentywood.

In the case of an oil bust, Sheridan County businesses will need to become more energy efficient and innovative, and support the development of new market areas if they do not wish to decline along with the county's agricultural population. At one time Sheridan County was much more self-sufficient, producing its own coal for fuel, milling its own flour, and farmers had local markets for meat, eggs and dairy products. The dollars circulated locally and supported a larger population and greater business activity. Since then we have developed into more of a "colonial" economy; shipping out the wholesale raw materials of oil, wheat and livestock; shipping in the finished retail goods, and paying the freight both ways. With increasing costs of transportation, labor and processing, it will become more feasible to produce and finish local products for local consumption. It would also provide support for the small family farms and small businesses which are the mainstay of a healthy rural economy. It is estimated that every six farm families will support one local small business enterprise.

One area with limited potential to expand area trade is through promoting tourism and travel through the county. Regina, Saskatchewan, is a large nearby city, and Sheridan County's gambling and drinking establishments serve as a major attraction to Canadians. The development of accommodations and recreation and entertainment facilities in association with gambling, eating and drinking places would help to increase Canadian trade.

The growing popularity of sport fishing, hunting, and bird-watching on the Medicine Lake Wildlife Refuge has the potential to increase trade in that area. The development of motel or traveler's accommodations in Medicine Lake could generate more business for downtown merchants and help support a wider range of business and services for area residents.

Another area that would indirectly support local trade would be the development of facilities to provide natural gas for local distribution. Using natural gas to replace fuel oil would reduce heating costs for area homes and businesses and free more money to support the local economy.

### I. Retail Trade

Retail trade (in 2007) in Sheridan County consisted of 21 businesses with total retail sales of 31.5 million dollars. Stores with the largest volumes of sales (of those businesses reporting sales figures) are gasoline stations, and building material and hardware stores.

The table at right shows the retail sales by type of business in Sheridan County. Twenty-one retail stores employed 167 people with an annual payroll of 5.4 million dollars.

### II. Wholesale Trade and Services

Wholesale trade in 2007 in Sheridan County consisted of five establishments – down from 22 in 1977 – with total sales of 4.95 million dollars. These businesses employed 20 people with an annual payroll of $747,000, also down significantly from 1977 ($930,000). No breakdown is given for sales in this category.

In 2007 there were a total of 175 service establishments in Sheridan County. Total receipts in 2007 amounted to 23 million dollars and provided employment for an estimated 400 people with a payroll of $8.5 million. As in other areas of business, it can be expected that the number of service oriented businesses and revenues has increased proportionately to the oil economy.

## Agriculture

Since the area was first settled, Sheridan County's economy has depended on agriculture. And since that time our agricultural economy has been at the mercy of the weather, fluctuating commodity markets, rail transportation, exports and federal farms programs. The farmer has had little to say about the prices he receives, regardless of the costs of production. Because

*Retail Trade Establishments*

| Kind of Business | Number of Businesses | Sales ($1,000) | Paid Employees |
|---|---|---|---|
| Total | 21 | 31,524 | 167 |
| Motor vehicle and parts dealers | 2 | D | a |
| Furniture and home furnishings stores | 1 | D | a |
| Electronics and appliance stores | 1 | D | a |
| Building material and hardware | 5 | 4,024 | 20 |
| Food and beverage stores | 2 | D | b |
| Health and personal care stores | 1 | D | a |
| Gasoline stations | 3 | 11,458 | 31 |
| Clothing and clothing accessories stores | 3 | D | a |
| Sporting goods, hobby, book, and music stores | 1 | D | a |
| General merchandise stores | 1 | D | a |
| Miscellaneous store retailers | 1 | D | a |

D: Withheld to avoid disclosing data for individual companies; data are included in higher level totals
a: 0-19 Employees
b: 20-99 Employees
Source: US Economic Census 2007

*Selected Service Industry Establishments*

| Service Type | Number of Employer Establishments | Employer Sales ($1,000) | Annual Payroll ($1,000) | Paid Employees | Number of Nonemployer Establishments | Nonemployer Sales ($1,000) |
|---|---|---|---|---|---|---|
| Professional, Scientific, and Technical | 8 | 1,849 | 707 | 33 | 26 | 613 |
| Administrative, Waste Management and Remediation | 5 | D | D | a | 6 | 262 |
| Education | 2 | D | D | a | 7 | 75 |
| Health Care and Social Assistance | 10 | 12,302 | 6,654 | 224 | 9 | 77 |
| Arts, Entertainment, and Recreation | 2 | D | D | a | D | D |
| Accommodation and Food Services | 17 | 4,772 | 1,150 | 142 | 14 | 727 |
| Other Services | 8 | D | D | b | 61 | 2,400 |
| TOTAL | 52 | 18,923 | 8,511 | 399 | 123 | 4,154 |

D: Withheld to avoid disclosing data for individual companies; data are included in higher level totals
a: 0 to 19 employees
b: 20 to 99 employees

of these factors agricultural producers have been caught in a continuing cost-price squeeze that is usually remedied by increasing production. The net result of this process has been the depopulation of rural areas through the trend toward fewer and larger farms and increased labor-saving capital investments.

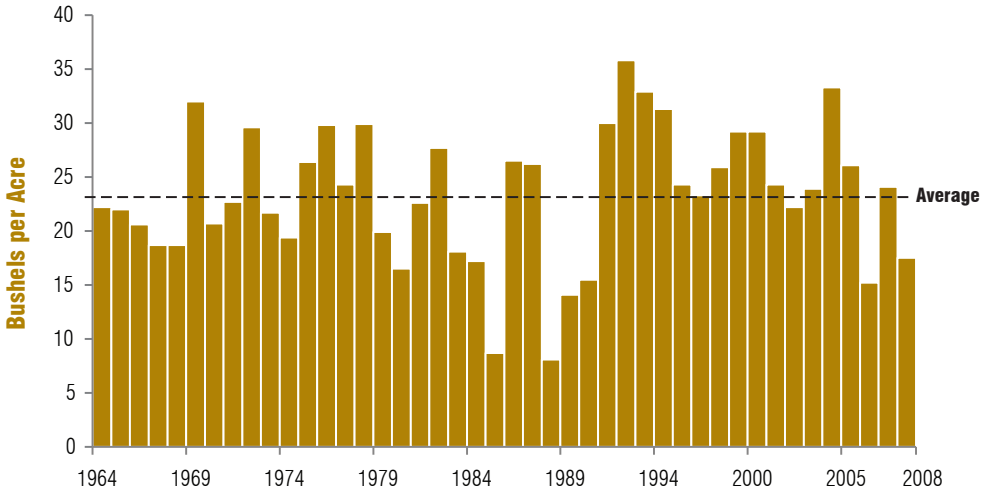
In recent years the importance of American grain in the world export markets has increased, and the world trade in grains has nearly doubled during that same period. U.S. agricultural exports have risen at a rate of 160 percent during the last decade, after a five year period of decline from 1997-2002. At the same time, corporate control of commodities, agribusiness and transportation has been expanded and consolidated. As specialization and size of farming operations increase, the multinational grain export companies have been expanding into a wider range of commodities as well as food processing and distributing, feedlots and meat packing, farmland, inland elevators and milling, fertilizers, hybrid seeds, mining, chemicals and timber. The railroad has also been expanding and diversifying to where it has virtually eliminated the competition of rail shipment of grain for export from our area. The establishment of 52-car unit trains increased our export capacities and lowered shipping costs for area farmers. At the same time, a unit train loading facility has undersold and eliminated competition from small area elevators which further centralized marketing and shipping into the hands of a few large corporations. The established trend is toward corporate expansion into all aspects of the food industry to the point where a few large companies will, for the most part, control grain shipment from the country elevator to the consumer's table. At that point one of the few remaining areas of corporate expansion will be the farms themselves.

Wheat is Sheridan County's primary cash crop. In 2011 the county was Montana's 18th largest producer of wheat of all kinds in the Spring crop with 1.4% of the total. Wheat and small grain production fluctuates from year to year with weather and soil moisture being the primary factors in production. Price supports and the set-aside program, fertilizer applications, wheat variety and commodity market price trends also influence the amount of annual production. The following table and chart show the county's overall wheat production, average yields, and indicate the rising levels of production in the last 20 years.

Unlike wheat production, livestock numbers show a greater reflection of U.S. market prices, consumer supply and demand, import quotas and to some extent, the effect of the weather on grazing conditions. Cattle production reached its peak in the late 60's and early 70's, declining substantially until the early 1990's. Inversely, sheep and hog production has declined markedly during the 70's and slowly recovered into the mid 1990's before declining again. The early 2000's saw all livestock numbers stabilize, with cattle showing the largest increase through the middle part of the decade. The table on the following page shows the year to year fluctuations in livestock production which functions primarily in response to variation in market price.

Sheridan County is the state's leading producer of durum wheat and generally among the leading producers of spring wheat and oats. Cash receipts for the sale of agricultural products (including government payments) in 2007 were estimated at $43,196,000. Total cash receipts from farm products have exceeded the previous peak set in 1974 when the total was just over 41 million dollars.

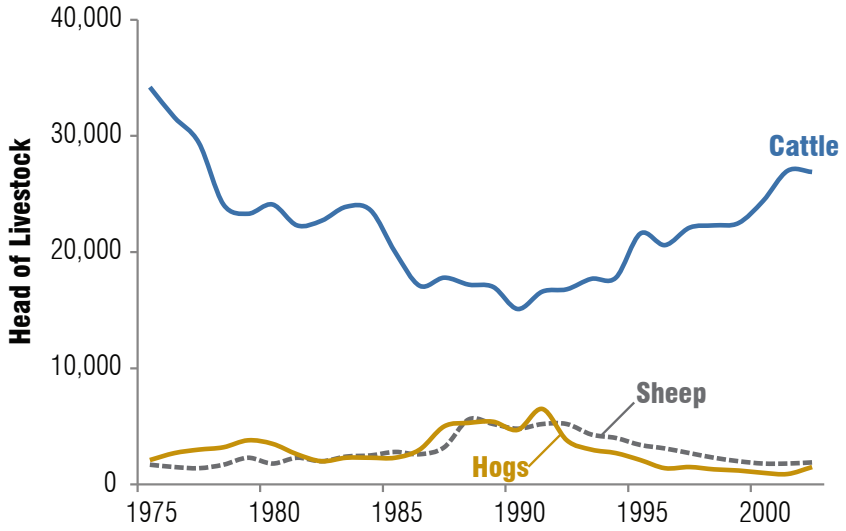
*Annual Wheat Yield, Sheridan County 1964-2008*




Source: USDA National Agriculture Statistics Service

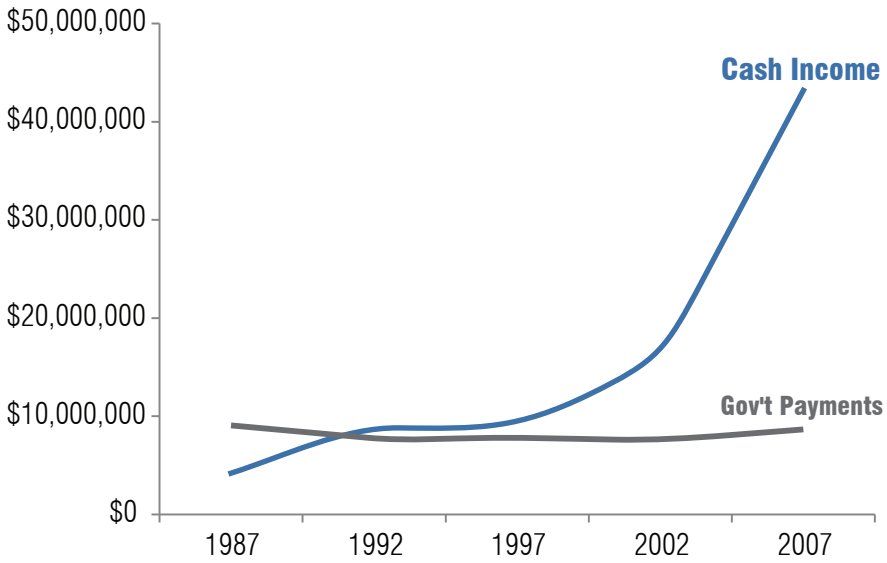
| Year | Harvested Acres | Yield |
|---|---|---|
| 1989 | 312,000 | 14.1 |
| 1990 | 261,000 | 15.5 |
| 1991 | 214,100 | 30 |
| 1992 | 250,200 | 35.8 |
| 1993 | 269,800 | 32.9 |
| 1994 | 269,500 | 31.3 |
| 1996 | 303,400 | 24.3 |
| 1997 | 308,800 | 23.3 |
| 1998 | 304,600 | 25.9 |
| 1999 | 324,300 | 29.2 |
| 2000 | 335,500 | 29.2 |
| 2001 | 339,500 | 24.3 |
| 2002 | 327,000 | 22.2 |
| 2003 | 354,500 | 23.9 |
| 2004 | 324,000 | 33.3 |
| 2005 | 324,700 | 26.1 |
| 2006 | 294,900 | 15.2 |
| 2007 | 299,700 | 24.1 |
| 2008 | 330,300 | 17.5 |

*Livestock Production, Sheridan County 1975-2010*




Source: USDA National Agriculture Statistics Service

*Farm Income, Sheridan County 1987-2007*




| Year | Net Income | Net Income per Farm | Gov't Payments |
|---|---|---|---|
| 1987 | $4,195,000 | $6,992 | $9,060,000 |
| 1992 | $8,850,000 | $16,825 | $7,732,000 |
| 1997 | $8,653,000 | $14,894 | $7,818,000 |
| 2002 | $15,754,000 | $25,006 | $7,533,000 |
| 2007 | $43,196,000 | $71,754 | $8,646,000 |

Source: US Census of Agriculture, 1987 Table: 4 Net Cash Farm Income

Considering past trends, the agricultural economy is in a relatively stable situation. However, despite the rising demand created by a rapidly growing world population, grain surpluses are not yet a thing of the past. Also, climatologists are finding a trend toward increased instability in world weather patterns which is expected to reduce agricultural production world-wide, and such has been the case for wheat producers globally. The increased use of irrigation systems in Sheridan County should help to stabilize production and reduce dependence on rainfall for some farmers. An increase in storage capacity on farms could help to cushion against low production years, and it could also help farmers avoid the seasonal fluctuations and short-term depressions of commodity markets.

The development of ethanol production or other forms of agricultural processing would provide a local market for agricultural products, expand employment opportunities within our agricultural economy, and provide a degree of local support for agricultural producers. The establishment of barge traffic on the upper Missouri River would reintroduce competition in the shipment of grain.

As the costs of energy increase, agricultural producers will need to apply energy conservation measures to all aspects of their operations. Energy conservation measures currently being experimented with include reduced tillage of cropland and alternate cropping with nitrogen-fixing plants to reduce fertilizer consumption. Farm residences, shops, and livestock barns could also incorporate alternative energy sources for heat to reduce farm operating costs.

## Mineral Development

Sheridan County sits on a vast reservoir of underground wealth of such minerals as natural gas and oil, coal, potash, clay and possibly uranium and other undiscovered mineral deposits deep within the earth. Underground water might also be considered a mineable resource.

The first mineral development in Sheridan County was the mining of coal, generally for local energy consumption. Coal was mined for heating, and to fuel boilers for processing and steam engines. Early coal mining was labor intensive and played a large part in supporting the rural economy. The town of Coalridge was supported by the coal mines, and coal was mined all along the Big Muddy breaks and any place where it was close to the surface. The use and mining of coal declined with the rise of the automobile and the conversion to the more convenient uses of petroleum fuels.

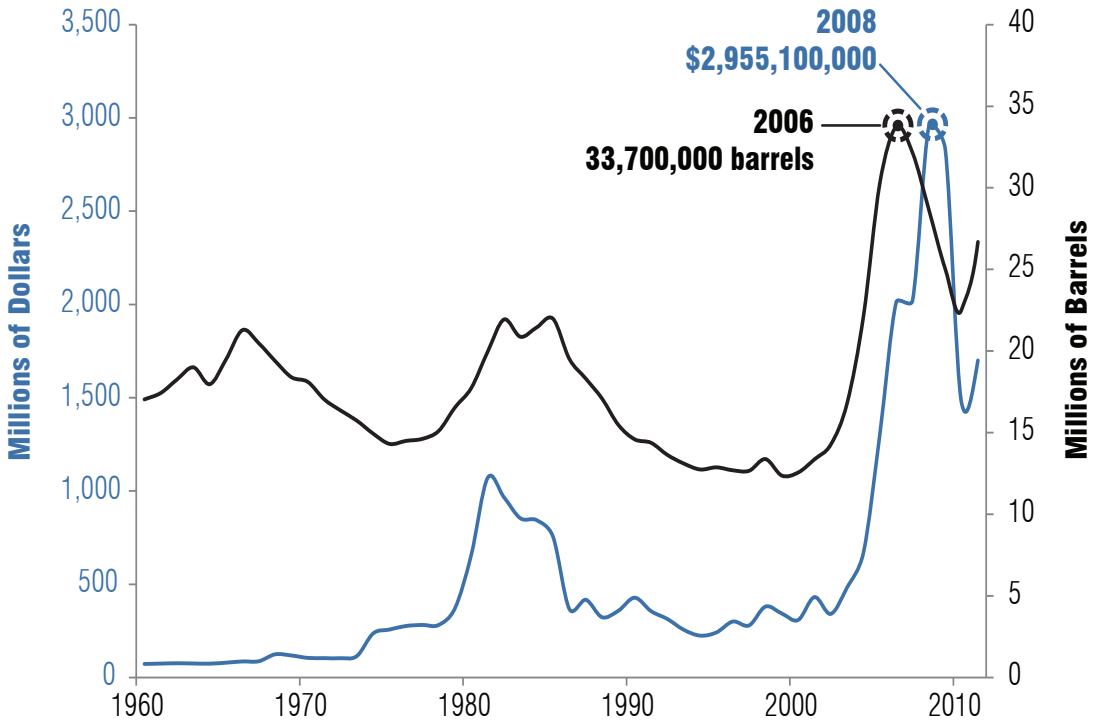
The county's oil production began in 1956 with the completion of the Tange well near Outlook. The first oil boom reached its peak in 1966 with total annual production at almost three million barrels. The county's oil production generally declined until 1978 when rising prices made it possible to drill for deeper oil. The second oil boom began after the mid-70's, and production and drilling activity increased rapidly until late 1981. In 1980 the county's oil production surpassed the peak in 1966. Although production was nearly the same at 3 million barrels, the price in 1980 was roughly 14 times greater. In 1973, before the Arab Oil Embargo, the price of oil on the world market was $3 per barrel, in 1980 it was $32 a barrel, and today in 2012 prices are nearing $90 per barrel.

The northeastern Montana oil producing region reached a peak in 2006, producing over 33 million barrels of oil, with gross values peaking two years later at nearly $3 billion. A steep decline followed, but 2011 and incoming 2012 numbers indicate another climb, correlating to rising global and domestic oil prices.

The increased value of oil and the ability to achieve higher well efficiency through horizontal drilling and hydraulic fracturing greatly increases the potential for local economic impacts over what they were during the 1960's and 1980's. The combination of drilling techniques requires more advanced technology and expertise, longer driller periods, and generally a larger number of workers, particularly truck drivers, to supply wells and to remove waste. The higher oil prices provided larger revenues for leasing, royalties, employment, and severance and property taxes. All this added an increased stimulus to the local economy to the extent that the area provided services, employment, and the land and materials to support oil production. Estimates are that oil companies spend about one percent of the value of the resource during exploration, and about 10 percent of this is spent in the local economy. A large part of the workforce and a majority of the oil field services are based in the larger, centrally located cities of Sidney, Williston, Glendive and Dickinson. The bulk of the oil money spent locally probably went to the economies of those cities.

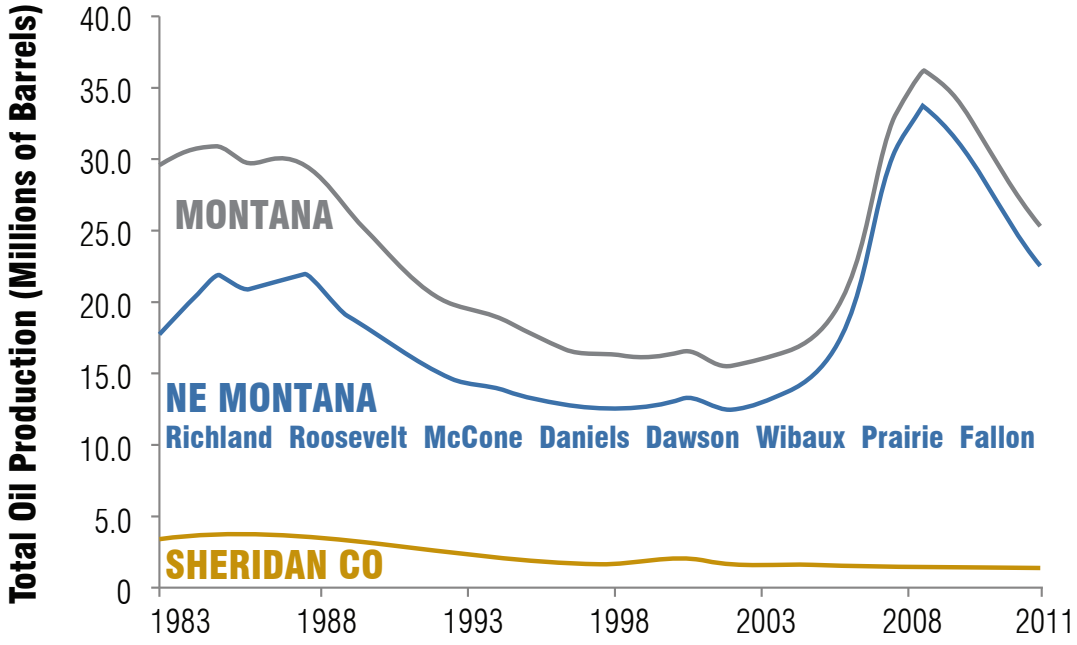
Similarly, the bulk of oil production has occurred in counties to the south. The table on the following page indicates that Sheridan County's oil production has been in gradual decline since the previous oil boom of the early 1980's. A brief peak in the late 1990's was followed by a period of instability through the recession years between 2005 and the present. Unlike nearby counties in North Dakota, oil production has yet to rise dramatically in Sheridan County, and thus production recently reached a 30-year low. Comparing production levels to those of the northeast Montana region show that most of the state's

*Northeastern Montana Oil Production and Value, 1960-2011*




Source: Montana Department of Natural Resources and Conservation, Oil and Gas Conservation Division, Annual Review, 1960-2001

*Total Oil Production Levels, 1983-2011*



drilling is occurring in nearby Richland and Roosevelt counties.

Businesses in Sheridan County have benefited from oil development to the extent that Plentywood and the rest of the county provided housing, personal services, and services and materials for oil production. Many of the workers lived outside the county and commuted some distance to work here. Providing additional housing to meet the temporary demand would have kept more oil money in the local economy and would have allowed businesses to expand sales and services. On the other hand, the expansion of housing and services to meet the peak demand would have increased the severity of a local recession following deflation of the oil industry.

The oil economy has provided employment opportunities for local people who otherwise would have to leave the area for employment. Oil has directly provided business opportunities for local people in support services such as truck hauling water, sand and gravel, and crude oil; earth-moving and grading; tank rentals; oil field maintenance; repair and welding; building and land rentals and sales; and mineral leasing. The indirect benefits or spinoffs of oil development have influenced all sectors of Sheridan County's economy.

Some of the adverse impacts created by the oil boom include the increased burdens to fixed and low income persons who must pay higher rents due to the added pressure for housing. Also the county must increase its maintenance and repair of roads deteriorated by heavy traffic. This is partially compensated for by increased tax revenues and severance taxes. Land taken out of agricultural production for wells, roads, tanks, pipeline and pumping stations reduces overall agricultural production and generally reduces the county's agricultural base. The added population of transient workers increases the workloads and demands for public services such as health care and emergency services, social services, police protection, sewer and water, solid waste disposal, schools, and recreation facilities.

An important adverse impact that must be considered is the down-cycle of oil development, or the bust that follows the boom. Once the county's oil potential has been completely explored and tapped, or when the industry deflates, much of the employment and support services will not be needed. Just as the economic expansion has affected all sectors, so will the reduction. Businesses, services, and employment will have to cut back; the support of county revenues will be reduced ,and taxes will probably increase as the taxable value of the oil industry decreases.

The de-control of U.S. oil prices to world price levels led to the rapid development of our oil reserves and similarly it led to the bust in our oil economy. At current rates of production, U.S. oil reserves may become depleted within the next several decades. Conventional methods of extraction recover about a third of the oil in the ground, however new technology has increased this efficiency. Eventually, as supplies dwindle and prices escalate, tertiary recovery will become more practical through the use of steam, carbon dioxide, or detergent injection. Oil will continue to be important to Sheridan County's economy, although probably not at the levels seen during the oil boom.

The extraction of our oil reserves today, means that this valuable resource will never be available to future generations. Landowners and businessmen should remember that oil extraction is a one-time harvest, and the income derived from oil should be used to invest in measures that will reduce future petroleum consumption and mitigate the problems that will arise from short supplies and prohibitively expensive petroleum products in the future. Sheridan county needs to begin planning today, for the day when the oil runs out; not only the oil that feeds the county's economy, but the world's supply of oil that runs our cars and tractors, heats our homes and provides us with chemicals, medicines, plastics, and other essential synthetic materials.

Sources

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## Transportation

The original forms of transportation which opened our area to settlement were the steamboat and animal-drawn wagons. The transcontinental railroad built in the 1880's quickly replaced steamboat transportation, and spur lines built into Sheridan County in 1910 and 1913 replaced the wagon freight and passenger services to the main rail lines. The railroads promoted the settlement of the Great Plains, and Sheridan County's agricultural development was a direct result of railroad and government efforts. The development of steam power and the internal combustion engine gradually replaced animal-drawn transportation until the 1940's when the country shifted exclusively to internal combustion engines and the automobile.

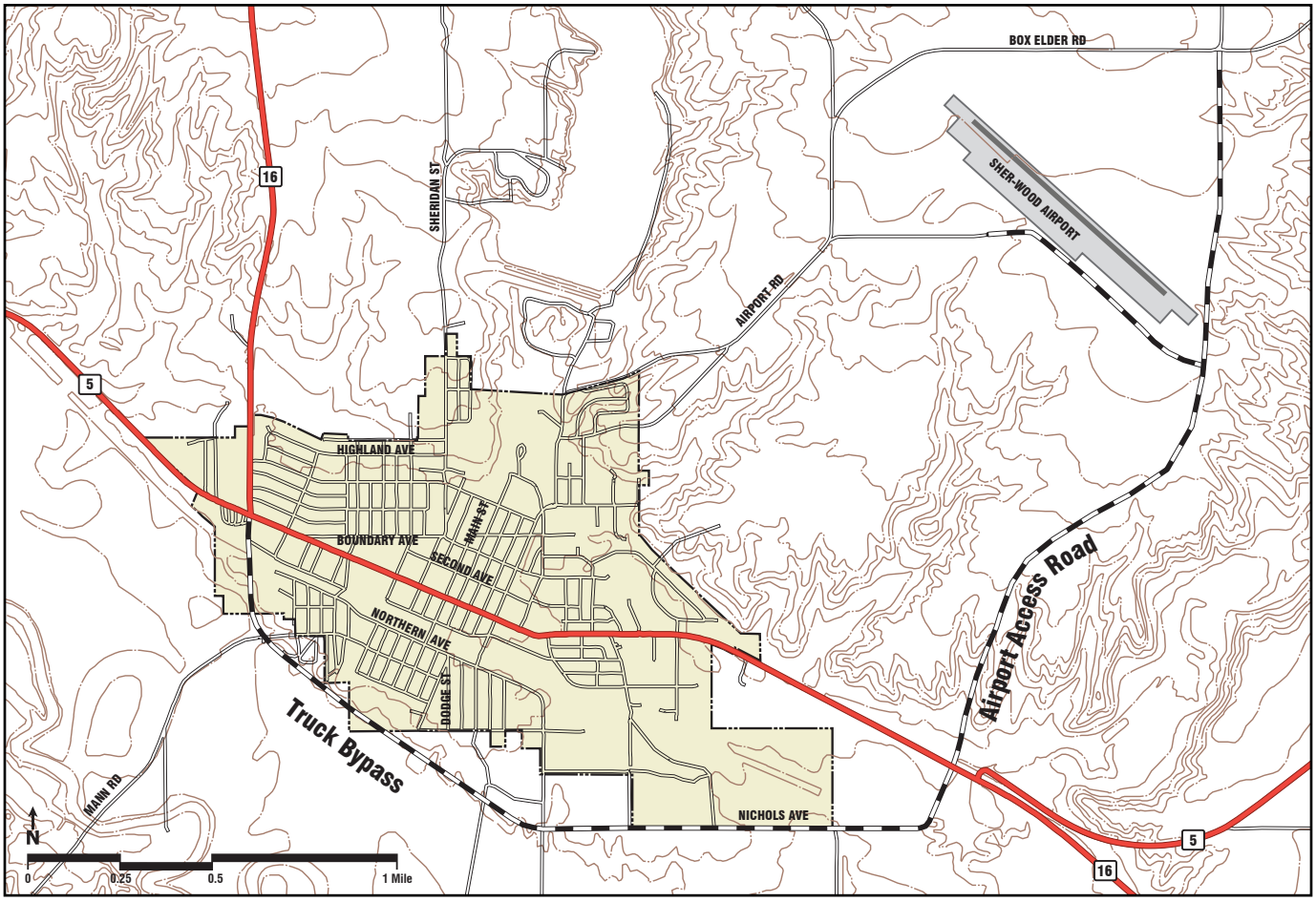
Much of the county's primary highway system was built during the 1930's. Although sections have been rebuilt to increase safety standards and accommodate larger traffic volumes, some sections of the county's highways still remain as they were originally constructed and they create hazardous conditions for today's traffic.

In the past, a declining rural population and improved road systems have led to the decline of our small towns and centralized the county's commercial activity and urban population in Plentywood. The decline in population and increased competition from motor vehicle transportation has forced the railroads to curtail their passenger and local freight services. Except for grain exports, some rail freight and pipelines, Sheridan County is totally dependent on motor vehicle transportation.

Because of our sparse population density, the use of private vehicles is the most acceptable means of transportation in the county. Increasing oil prices have increased the cost of transportation and spurred national interest in mass transit which, for the most part, is not feasible in Sheridan County. The increased costs of materials and equipment have also reduced the ability of governments to maintain and improve transportation systems.

Sheridan County bears an added burden in the development of its oil resources with the increased activity and heavy traffic throughout the county, particularly from large trucks transporting drilling fluids and water to and from oil well sites, deteriorating roads faster than they can be maintained or improved. The increased traffic also places more demands on towns for new streets and street improvements. Additionally, there is no reasonable way to get around the City of Plentywood in almost any direction. Rural traffic from the south and northeast is routed through tree lined residential streets that are clearly not designed for large farm equipment or heavy industrial loads. To mitigate this issue, the county should explore the feasibility of

*Plentywood Truck Bypass and Airport Access Alternative*




a truck bypass route around Plentywood and some of the other major towns.

Box Elder Street in Plentywood is also experiencing level of service issues and an alternative is needed. The proposed Airport Road project can provide this diversion by relocating the road to the south and east sides of the Sher-wood Airport runway. Box Elder Street is the only access to residential areas, the airport and a large rural area beyond. The alternate airport road is needed for public safety as well as accommodating todays oversized and heavy farm equipment. Similar alternate access roads need to be considered for the two county roads coming into Plentywood from the south, and for the increasing heavy, oversized, hazmat truck traffic through town on Highways 5 and 16.

Finding a location for a new airport road somewhere between the city limits and the Westby turn is limited due to highway commercial development or steep hills, which leaves one location just west of the Highway 5 intersection that is suitable. In working to develop the new road project, repeated attempts to contact some property owners have been unsuccessful. The majority of private property owners on the proposed route are agreeable to the project. The county has contacted MDT on the location of the road intersection with Highway 16, with their condition being that it must be located at least 200 feet from the Westby highway intersection. A right-of-way application has not been submitted to DNRC/State Lands because it requires an expensive land survey that would be wasted if the private land cannot be obtained. To avoid additional private property issues, the most desirable route for a new "airport access" road would be on a more difficult grade on their west property boundary. Above is a map of the potential Plentywood bypass route and an alternative airport access road.

The high costs for transportation have forced people to consider reduction in unnecessary travel and examine more efficient methods of transportation. The patterns of urban development which accompanied increased automobile use may need to be reversed as fuel supplies decline. Suburban areas, outlying

shopping centers, and highway strip development are all results of the prominence of auto transportation. Urban development and commercial services will need to be more centralized to reduce transportation costs and to accommodate public transportation systems.

The extension of barge traffic on the Missouri River to our area is seen as a means to reduce the railroad's control over area grain exports. Barges would be more energy efficient, open up gulf ports for area grain exports, and offer a competitive alternative to the high freight rates being imposed by the railroad.

A more effective long-range approach to reducing transportation costs would be to increase local self-sufficiency and reduce our dependence on outside sources of supply for energy as well as many retail goods. As transportation costs rise, it improves the economic feasibility of finishing local products for local consumption. For instance, the local processing of agricultural products for local needs, would eliminate the cost for shipping out raw materials and importing the finished product, and would help stimulate a local, diversified agricultural economy.

## State Highways

State highways in Sheridan County include Highway 16 from Culbertson to Plentywood and Highway 5 from Scobey through Plentywood to Westby. Most of the paved roads are maintained by the county, however some of them have been transferred to the state Highway Department in recent years. The Reserve-Dagmar highway was originally built in 1933 with more modern sections being added in 1963, 1974 and 1983. Highway 5 from Redstone to Plentywood was built in 1936 and 1937 and the highway from Plentywood to Westby was built in 1938 and 1940 and has not been improved since. A resurfacing project on Highway 16 was completed in 2012.

Highways in the county that are outdated, deteriorated, and generally present hazardous driving conditions include Highway 5 from Plentywood to Westby and the Reserve Highway. These roads need to be widened and improved to meet the increased traffic loads and modern vehicle traffic.

## County Roads

There is an estimated 1,800 miles of road in Sheridan County. Of this, there are approximately 125 miles of paved state highway, 85 miles of four wheel drive trails, and 35 miles of private roads. The remaining 1,555 miles are local unseparated roads or unnamed county roads.

In 2007, the Montana Department of Transportation conducted a Transportation Regional Economic Development (TRED) study for the Theodore Roosevelt Expressway, which included State Highway 16 through Sheridan County. The report concluded that the corridor was underserved by the two-lane configuration and a four-lane alternative would meet all improvement purposes, which included enhancing safety and economic growth in the multi-jurisdictional area. Construction cost estimates ranged from $179 million to $ 319 million, with $2 million in SAFETEA-LU funds currently earmarked.

In addition to mill levies, sources of funding roads include the oil and gas tax, payments from federal lands in lieu of taxes, oil royalties on county-owned minerals, a tax on the annual increase in oil production, and federal aid matching money for secondary and off-systems roads.

Even with the improved road department, many roads continue to deteriorate faster than they can be repaired, and massive amounts of funding would be needed to modernize much of the county's aging road system.

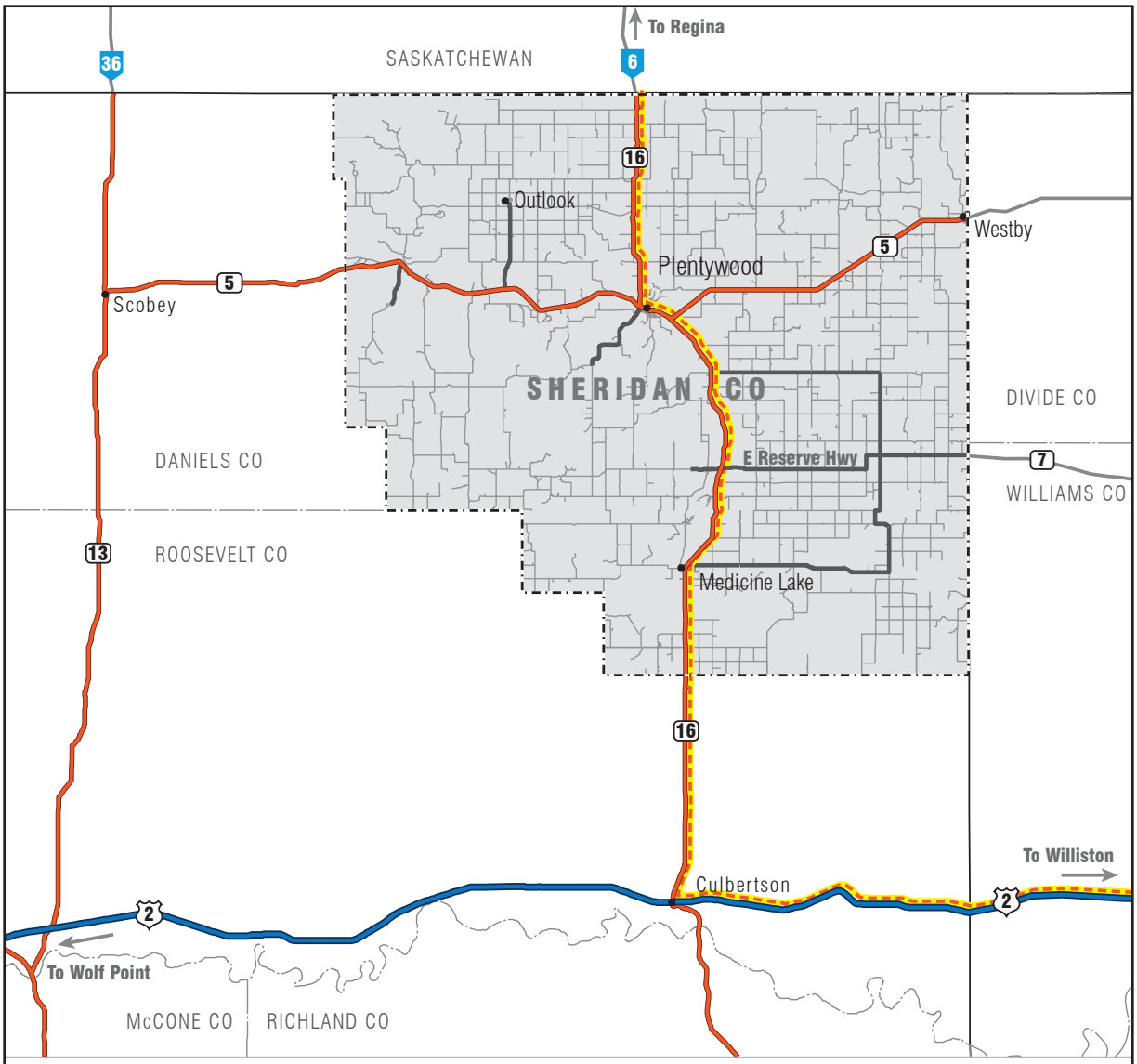
As mentioned in the discussion of public input, many rural residents are dissatisfied with the conditions of county roads. In the 1980's, the county planning board looked into an alternate method of providing for county roads such as is done in neighboring counties in North Dakota. Williams and Divide. Counties are districted into townships which have limited powers of self-taxation above what the county levies for roads. Each township has a representative board which meets with the county each spring to set up road maintenance and improvement schedules. The permissive township levy is used for local roads, improvements, and emergency situations which have not been scheduled. This added road work is contracted with the county if equipment and manpower is available. Otherwise the work is provided by private contractors through the county.

Because of our uneven population densities and legislative obstacles, a system of township districting is not practical for Sheridan County. However, some method of road districting and local organization to assess local road conditions and to prioritize and schedule road maintenance could improve the efficiency of providing for county road needs. The increased use of private contractors and providing equipment for local self-help projects could reduce the demands on the county road department and allow the county to follow a more regular schedule of road maintenance and improvement.

## Road Abandonment Policy

The procedure for the abandonment or alteration of a county road, public right-of-way, or street under the county's jurisdiction is set out in Montana statutes, MCA 7-14-2601 through 2617 (abandonment means end of use or activity of the right-of-way easement with no intention to reclaim or use again; it

*Highway and Street Network, Sheridan County*




| | Miles |
|---|---|
| Secondary Highway, Unseparated | **123** |
| State Highway 5 | **49** |
| State Highway 16 | **74** |
| Local, Town or County Roads | **1,555** |
| 4WD Trail | **85** |
| Private Roads | **35** |
| TOTAL | **1,798** |

is sometimes called vacation) (alteration means change, move, or relocate the right-of-way easement). Sheridan County offers the following steps to assist landowners in providing sufficient information to request the abandonment or alteration of a county road or street:

1. A blank petition form requesting the abandonment or alteration can be obtained from the Sheridan County Clerk & Recorders Office or the Planning Office. The petition requires the signatures of all owners of lots on the street or alley. If more than one sheet is necessary to assure that all affected landowners' names and signatures are included with the petition, please make or request additional copies of the petition form.

2. The petition must set forth:

- The particular road or roads to be abandoned or altered;
- The general route thereof (preferably shown on a map exhibit);
- The lands and owners affected;
- Whether the owners who can be found consent thereto;
- Where consent is not given, the probable cost of the right-of-way;
- The necessity for and advantage of the petitioned action.

3. Prior to obtaining the necessary signatures, it is recommended that the petitioner(s) have the Sheridan County Planning Office review the petition for correctness of the road description and any map exhibit. This review is to assure that all parties understand which road and to where the road petitioned for will be altered to.

4. The County may not alter or abandon a county road or right-of-way used to access private land if the access benefits two or more landowners unless all of the landowners agree to the petition. The petition should include signatures of all owners of land accessed by the road, granting their consent to the alteration or abandonment.

5. When these requirements have been carried out, the completed petition needs to be delivered by the petitioner(s) along with a non-refundable $150.00 fee, to the Sheridan County Planning Office who will process and verify the contents of the petition. This required fee is for the carrying out of the necessary administration and notice costs associated with the processing of the petition.

6. A public hearing will be commenced before the Board of County Commissioners within 30 days of submission of the completed petition. Notice of the hearing is given by publishing it in the public notice section of the newspaper twice prior to the hearing, with at least six days separating each publication. Additionally, all owners of the land abutting the road or street, as listed on the last county assessment roll, are given notice of the public hearing by mail.

7. At the opening of the public hearing, the Board of County Commissioners will listen to comments regarding the petition. After hearing comments, the County Commissioners will arrange for an on-site investigation to be made concerning the petition.

Road viewers are appointed, being one member of the Board of County Commissioners and a member of the Sheridan County Department of Public Works, whom shall investigate the feasibility and desirability of the proposed action and determine the merits or demerits of the petition.

8. After reviewing the report of the on-site inspection and any further comments, the Board of County Commissioners will then make their decision.

9. Within 10 days of making their decision, the Board of County Commissioners shall cause notice of its decision to be sent by certified mail to all owners of land abutting on the road or street petitioned for.

10. The property owners acquiring the portion of right-of-way that has been altered or abandoned, will be responsible for having the property surveyed to relocate the property boundary. Existing utilities in the public right-of-way must be provided with an easement when the property reverts to the private adjacent lot(s). The public rights-of-way will stay under county ownership until the survey is completed, approved by the county, and filed with the Clerk and Recorder.

## Railroads

There are two operating rail lines in Sheridan County. The Yellowstone Valley Railroad operates one branch lines leased from BNSF out of Bainville, provides rail freight services to Homestead, Medicine Lake, Reserve, Antelope, Plentywood and Redstone. The Dakota, Missouri Valley and Western Railroad now operates on what was the former Soo Line, and originates in Minot providing rail services to Westby, Raymond and Outlook. The nearest Amtrak passenger services are located in Wolf Point and Williston, North Dakota.

Railroads have played an important part in Sheridan County's development and they remain an important means of transportation. Until the 1950's, the railroads provided passenger service and local freight services for farm commodities and local distributors. Since then the declining population, increased farm exports and trucking competition have reduced the balance

of imported products compared to farm commodity exports to where the railroad functions primarily as a one-way grain export system. This has contributed to increases in transportation costs. Sheridan County is located 700 miles from Great Lakes ports and 1,200 from West Coast ports and because of this, it is situated on the freight rate divide and pays the highest freight costs of any area in the nation. The costs of hauling grain by truck to port terminals is much higher than by rail, and since the railroads have no other effective competition, they have been able to increase their shipping rates beyond the normal limits of supply and demand.

Alternate forms of grain shipment would introduce competition and reduce the costs to area producers. The use of barge traffic on the Missouri River or the development of grain pipelines have been studied but actual development of such alternative systems is far from becoming a reality.

## Air and Bus Travel

Other than limited charter service in Plentywood, there are no commercial airline services in Sheridan County. The nearest air carrier airports are located in Wolf Point, Glasgow, Williston, North Dakota, and Regina, Saskatchewan. The Sher-wood Airport at Plentywood is jointly owned by the city and county and has a 3,900 foot paved runway. The runway was improved in the 1980's by a 700 foot extension and resurfacing, new runway lighting, and a new apron area. Current planning is being undertaken to update to the Airport Master Plan and completing various capital improvements.

Sher-wood Airport is used by a number of private and commercial pilots and is invaluable in providing for fast emergency medical transportation. Because of our isolated geographic location the use of air travel should be promoted as an alternative to driving long distances to reach large cities and commercial centers.

Sheridan County no longer has a long distance or commuter bus service. In the past, Neville Transit made one round trip daily from Plentywood to Glendive, connecting in Culbertson and Glendive with east-west bus passenger service. Quality Transit out of Plentywood offers countywide senior and disabled persons transit services on an on-demand basis. Should the county begin to grow, there will be a need for greater access to local public transportation in our county as well as the rest of northeastern Montana, and bus transportation is likely the most practical means of public transit for our area. A bus system to connect our area with daily airline or Amtrak passenger services in Wolf Point or Williston would greatly improve our area's public transportation system.

Sources

Montana Dept. of Transportation, TRED, Theodore Roosevelt Expressway 2007, http://www.mdt.mt.gov/pubinvolve/us2tred/

U.S. Census TIGER/Line data, 2011


## Public Facilities

Certain public utilities and services are provided in response to existing and prospective patterns of a community's development, and accordingly, must be provided in close coordination with changes in land use and community growth. Although Sheridan County, as a whole, has declined in population, nearby cities and counties have struggled to provide adequate public services for their rapidly growing jurisdictions. The continued rise in the standard of living also creates an increased demand for public facilities and services.

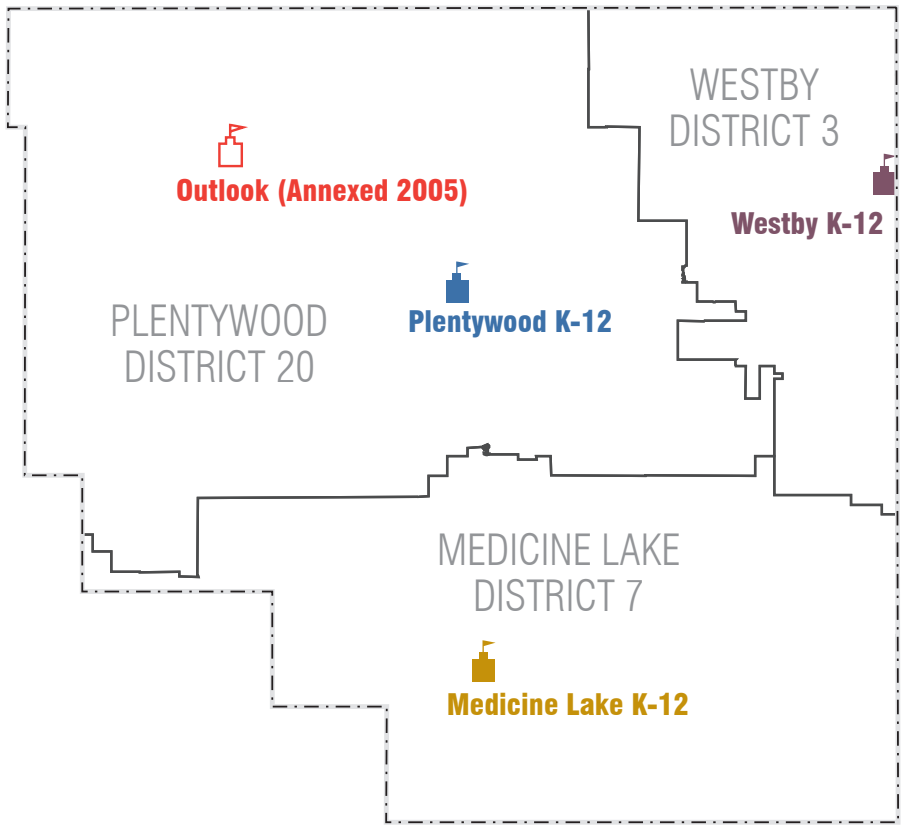
The municipal governments typically provide for water, sewer, garbage collection, streets, and police and fire protection. Outside the municipal boundaries the three elected county commissioners are responsible for the provision of services in Sheridan County, and the county provides support for municipal services such as solid waste disposal, fire protection, law enforcement and recreational facilities. The smaller unincorporated communities generally run on volunteer effort from community members, however, the ultimate authority for the provision of services in these communities rests with the Sheridan County Commissioners.

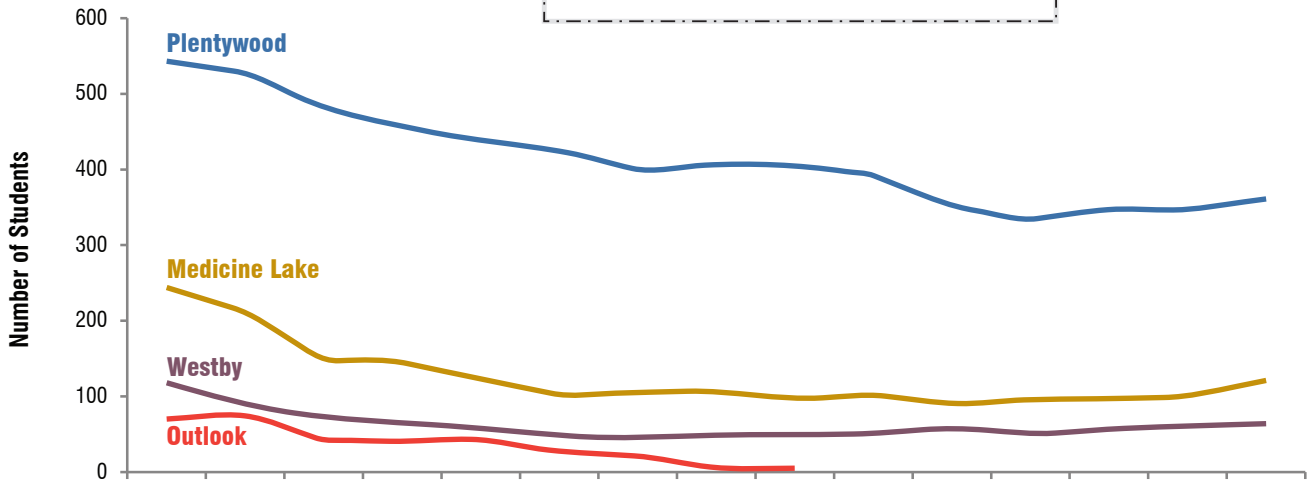
The growth policy's responsibility is to inventory existing facilities, relate the demand for such facilities, and anticipate future needs. In planning for community growth and the expansion of public facilities, the growth policy should consider the most efficient and desirable means of providing services. Because urban expansion affects a variety of public services and utilities, growth must be considered from a comprehensive viewpoint. Some of the more important considerations include the proximity of new development to schools and roads and the ability to provide water, sewer, garbage collection, and police and fire protection services. New developments should also consider provisions for adequate road and utility access and the access needs for any future development.

### Schools

The changes in Sheridan County's school system provide an indication of the socio-demographic changes taking place within the county. At one time the county's school system was made up of numerous small rural elementary schools which, along with the churches, were the center of activity for all local affairs. As rural populations declined, and as transportation and communications improved, the country schools were consolidated and centralized in the nearby towns. Although this consolidation of schools may increase the efficiency of providing and regulating public education, it does not necessarily provide better education or reduce the costs of education,

*School Districts and Student Enrollment, Sheridan County 1990-2012*




| School | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plentywood Elementary | 393 | | | | | | | | | | | | | | |
| Plentywood K-12 | 150 | 533 | 481 | 457 | 437 | 424 | 400 | 407 | 386 | 393 | 351 | 335 | 348 | 347 | 361 |
| TOTAL | 543 | 533 | 481 | 457 | 437 | 424 | 400 | 407 | 386 | 393 | 351 | 335 | 348 | 347 | 361 |
| Medicine Lake Elementary | 172 | 131 | | | | | | | | | | | | | |
| Medicine Lake K-12 | 72 | 81 | 148 | 145 | 123 | 102 | 105 | 108 | 96 | 102 | 91 | 92 | 97 | 100 | 121 |
| TOTAL | 244 | 212 | 148 | 145 | 123 | 102 | 105 | 108 | 96 | 102 | 91 | 92 | 97 | 100 | 121 |
| Westby Elementary | 82 | 56 | | | | | | | | | | | | | |
| Westby K-12 | 36 | 32 | 72 | 65 | 59 | 49 | 45 | 49 | 49 | 51 | 59 | 53 | 57 | 61 | 64 |
| TOTAL | 118 | 88 | 72 | 65 | 59 | 49 | 45 | 49 | 49 | 51 | 59 | 53 | 57 | 61 | 64 |
| Outlook Elementary | 51 | Inactive | | | | | | | | | | | | | |
| Outlook K-12 | 19 | 74 | 43 | 40 | 43 | 28 | 21 | 5 | 5 | Annexed | | | | | |
| TOTAL | 70 | 74 | 43 | 40 | 43 | 28 | 21 | 5 | 5 | | | | | | |

particularly in providing transportation. The loss of an area's small school does decrease the local community's identity and reduces the interactions between community members. It may also make it more difficult for parents to take a more active role in their children's education.

Despite the increasing costs of "progress" and centralized schools, our current school system operates smoothly and efficiently and maintains high educational standards. Sheridan County's existing school system consists of three public elementary schools and senior high schools. The map on the previous page shows the boundaries for the county's active school districts.

**Plentywood (District #20)**

The Plentywood District is the largest school district in Sheridan County with a total student enrollment of 361 for the 2011-12 school year, a 5% increase from the previous year. Plentywood Elementary was consolidated into the K-12 school in 1990, at which time total enrollment was 543 students. Plentywood's schools have 14 classrooms for grades kindergarten through sixth, 4 classrooms for seventh and eighth grades, and 19 classrooms for the high school along with shop, vo-ag, and band facilities. The original brick building with 11 classrooms was constructed in 1961 and has since been destroyed by fire and rebuilt. The school district employs 32 teachers and three administrators.

**Medicine Lake (District #7)**

Total student enrollment at the Medicine Lake Schools during 2011-12 was 121, up 21% from the previous year. As in Plentywood, all Medicine Lake schools were consolidated in 1995. The school district employs an administrator, 16 teachers and nine other staff members.

The high school was destroyed by fire in 1979 and was rebuilt in 1980. The grade school addition and gymnasium were built in 1955. With construction completed, the school has a total of 18 classrooms. Financing of reconstruction was provided by selling $180,000 worth of bonds for the elementary school, $270,000 in bonds for the high school, and $600,000 in insurance settlements for a total of 1.05 million dollars.

**Westby (District #3)**

Total student enrollment at the Westby Schools for the 2011-12 school year was 64, a 7% one-year increase. In 1995, Westby schools were consolidated into one K-12 school. In 2006, the school district employed one administrator and 11 teachers. The gym and vocational classrooms of the school were built in 1957 with the present classrooms and support facilities being constructed in 1967. In 1982, the school bricked in large northern exposure windows and replaced them with smaller, more energy efficient windows which has led to substantial savings in energy costs. The Westby schools have a total of 12 classrooms.

**Outlook (Annexed into District #20)**

During the last year of operation (2005-2006 school year) a total of five students were enrolled in the Outlook. After the 1989-1990 year, Outlook schools consolidated, and in 2005 the K-12 school was annexed into the Plentywood District 20 school.

**Summary and Discussion**

Since the 1980's, declines in rural populations and improved transportation, have forced the consolidation of rural elementary schools into the larger schools associated with high schools in the nearby towns. Until 2009, declining school enrollments indicated that this would continue, however the most recent figures show this trend may be reversed. Every school has experienced substantial enrollment growth in the last five years, with total enrollment increasing 9% over that time. Medicine Lake school, once under threat of closure, has had the largest increased at 33%. Plentywood School has also stabilized after experiencing steady decline.

The county's schools currently have adequate facilities to meet future demands, yet potential growth from the county's oil activity could require expanded facilities and particularly staff. The schools must, however, continue to maintain and upgrade their facilities to meet the requirements of state and federal educational standards.

Sheridan County's youth is one of its most valuable resources and this human resource has steadily declined for the past 20 years. The number of school-age children is also a major factor contributing to the county's overall socioeconomic health. A good percentage of Sheridan County's students go on to higher education, and our area does not offer the variety of employment opportunities requiring advanced education as is found in urban areas.

As well as offering basic education, our public schools should be encouraged to offer educational courses which rely on local resources and which will offer a greater understanding of the local environment, economy, and community needs; which in turn may generate greater youth involvement in the community and hopefully will encourage them to return to or remain in the area and contribute their skills to the community as opposed to having them drawn away to urban areas.

The rising cost of energy is a major item in school budgets.

Public schools should be encouraged to continue implementing energy conservation measures, use alternative energy sources to reduce costs to the taxpayer, and at the same time provide a practical example of responsible energy use.

## Library


The Sheridan County Library was established in 1919 by a resolution passed by the county commissioners. The present library building was moved to the county building in 1983, located at 100 West Laurel Avenue in Plentywood.

At present the library has 37,150 volumes for a service population of 4,105 residents with an annual circulation of 23,687. It is open 50 hours per week, six days a week. The library is equipped with up-to-date audio/visual and computing equipment, including six public internet terminals. Services offered include story time for preschoolers, a summer fun day for elementary students, a photocopy machine, and accessibility to the services of the Great Falls Film Library, the Montana Division for the Blind and Physically Handicapped, and the Golden Plains Library Federation.

As a member of the Golden Plains Library Federation, the library receives inter-library loan service, a community awareness program, and continuing education workshops for the librarian and board members paid for by coal severance funds. Through the inter-library loan system, county residents have access to the Montana State Library and all university libraries in Montana.

The Sheridan County Library is governed by a board of six members from throughout the county and is supported by county taxes. Present library facilities are adequate and meet the Montana Library standards for facilities, collections, and staff.

## Human Services

Human services include medical care and services as well as those programs which provide assistance to low income, elderly, handicapped or disabled persons. During the past few decades public assistance programs have been expanded to include larger segments of health care and social services, and increasingly affect larger segments of the population. Public assistance in providing health care and social services does provide help that otherwise might be unaffordable or unavailable, but it also fosters a dependence on the public institutions which may reduce individual initiative and, in some cases, family and community responsibilities. With reductions in federal support for some of these programs, it may require a reduction in services or increased program support from local or state government funds.

### I. Medical Care

There are two doctors in Sheridan County, located in Plentywood. The Sheridan Memorial Hospital building was built in 1953 with an addition built in 1964. The adjoining nursing home was added in 1968 and the hospital was expanded in 1979 and again in 1990. The hospital is a 19-bed facility with two beds for recovery and 77 long-term care beds. The hospital is complete with xray, laboratory, operating, and emergency rooms, with a rehab suite located in the basement. The nursing home contains 65 beds with 34 beds for skilled care and 31 beds for intermediate care.

### II. Emergency Medical Services

Emergency medical services are administered through the hospital with support funding from the county and facility support from the City of Plentywood. There are two ambulances with 6 to 12 volunteer drivers located in Plentywood. Recent funding from the county and a Department of Transportation Communications grant have allowed this service to be upgraded with a more advanced communications system. Future grant funding is expected to complete a "rapid response" system with a base station and pagers for volunteers on call.

### III. Dental Care and Other Medical Services

The Sheridan Dental Clinic in Plentywood provides the services of one dentist. The dental clinic employs a total of eight people.

### IV. County Health Nurse

The County health nurse is a registered nurse and travels throughout the county on a regular basis. Her office is located on the second floor of the courthouse annex. The office is staffed by the health nurse with volunteers called upon occasionally for various clinics. Among the services provided by the health nurse are the following:

1. Maternal-Child Health Services - this includes visits to pregnant women and newborn babies as needed, family planning and handicapped children services.

2. School Health Program - includes providing consulting and resource information, teacher consultation, presenting health education classes, immunization surveys and immunizations

upon request, updating school health records and generally coordinating the school's and community's health programs. EPSDT (Early Periodic Screening, Diagnosis and Treatment Program) is also provided through the school health program.

3. Referral Services - provides nursing services for the sick in their homes, instruction for family members in care for the ill and assistance in providing prescribed medication in the home, and medical reports to physicians.

4. Geriatric Services - includes home visits, drop-ins, and attending monthly meetings of Senior Citizens groups for blood pressure testing and other physical assessments.

5. Other Services - The county health nurse participates in the community health program and provides follow-up for referral from the state hospital. She also provides follow-up on reported cases of communicable disease.

**V. District Sanitarian**

Sheridan County employs a sanitarian who works out of an office located in Plentywood. The district sanitarian is responsible for enforcing the regulations of the State Department of Public Health and Human Services. The sanitarian inspects food services, retail food establishments, trailer courts, hotels, motels, schools, taverns, and public swimming pools. Other programs involving the sanitarian include solid waste, junk vehicle, subdivision review, air pollution, water supply, sewage disposal, animal, rodent and vector controls.

**VI. Action for Eastern Montana**

Sheridan County is included in the 17-county area served by Action for Eastern Montana (AEM) which is headquartered in Glendive. AEM is a community action agency aimed at providing assistance to low income people. Services and programs provided include fuel bill assistance, home weatherization, employment for youth, and services for the aged.

1. Programs for the Elderly - include services in the areas of transportation, home health, home chores, senior citizen centers, meals, legal services, nursing home liaison, and general problem solving. In Sheridan County the local Council on Aging has a bus which makes regular runs to Westby and Medicine Lake to provide transportation for senior citizens. Senior Citizen centers are located in Plentywood, Medicine Lake and Westby and are used for entertainment, dining and meeting places for the county's elderly people. Meal programs are available in Medicine Lake and Westby. Funding for transportation and program support comes largely from the federal government with 20 percent matching from the County. The senior citizen centers are largely supported by member donations.

2. Section 8 housing - provides rent subsidies and utility allowances for low-income families.

3. Youth Employment Programs - generally provide employment to people in the 14 to 21 age range and offer training in job skills, basic education, problem solving, community service and general career orientation.

4. Weatherization Programs - are funded through the Department of Energy and provide for energy conservation measures in low-income residences which include insulation, window caulking or repair, and roofing and siding in some cases.

5. Fuel Bill Assistance - provides funding for low income families who cannot meet the rising costs of fuel for home heating.

**VII. Welfare**

The Department of Public Health and Human Services provides economic assistance and social services out of an office in the county courthouse. Sheridan County is one county in a three-county combination. Daniels and Roosevelt Counties are also included in this county combination, with the county director located in Wolf Point. Personnel, expenses and staff time are divided between Sheridan and Daniels Counties.

DPHHS provides the following economic assistance services:

- Aid to Dependent Children
- Medical Assistance/Medicaid
- Food Stamp Program (SNAP)
- Temporary Assistance to Needy Families (TANF)
- Transient Relief

DPHHS provides the following social services and programs:

- Family Services
- Child Support/Protective Services
- Developmentally Disabled Program
- Nursing Home Services
- Aging Services
- Day Care Licensing
- Foster Home Licensing Referrals
- Adoptive Service Referrals
- Early Periodic Screening Program

**VIII. Glenwood, Inc.**

Glenwood Incorporated is a non-profit organization designed to provide services and care to the developmentally disabled. Glenwood's facilities consist of an activity center, a thrift store, a group home, a personal care home, and semi-independent training housing. They operate three buses to provide

transportation throughout the county. The auxiliary thrift shop operated by volunteers provides supplemental funding for Glenwood.

The facilities offer limited aluminum recycling, but the primary purpose of its facilities is to provide job skills, education, communication and socialization skills, personal care, and generally to help the developmentally disabled become self-sufficient members of the community.

Glenwood is governed by a board made up of people from Sheridan and Daniels Counties. Funding for staff and personal care is provided through the Developmental Services Division of the Department of Public Health and Human Services. Glenwood's long-range goals are to become primarily self-supporting. It provides an invaluable service to the developmentally disabled and the community, and every effort should be made to ensure that it receives continued support and encouragement.

### IX. Pioneer Manor

The Pioneer Manor Inc. is a community based non-profit organization which provides housing and services for the elderly. The Pioneer Manor was built in 1965 with a wing added in 1970 and eight apartment units added in 1980, for a total of 21 apartments and 29 individual rooms. With the increasing costs of owning, renting or maintaining a home it can be expected that the demand for retirement housing will continue to increase.

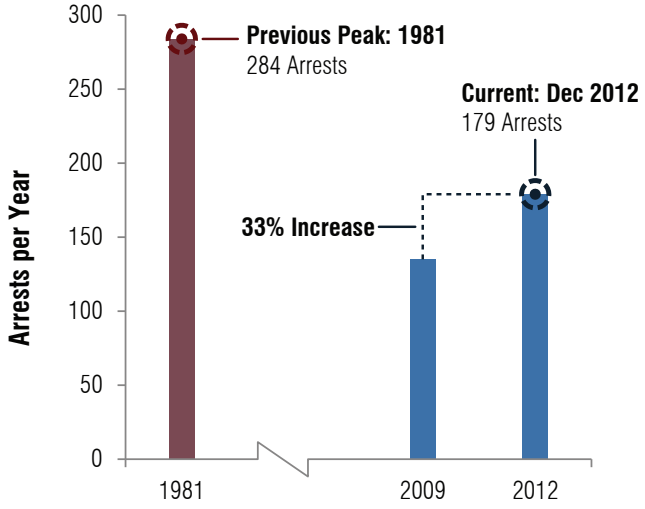
## Law Enforcement

Along with police protection, law enforcement includes specialized functions such as the border patrol, highway patrol, game warden, the judicial system and supporting facilities. With the increase in oil activity in the last few years the work-loads of law enforcement have risen substantially. The largely young, single, male, transient workforce in oil development generally increases law enforcement demands, and the low unemployment rates and high job turnovers also attract many looking for work. Sheridan County's proximity to Canada and North Dakota which have greater restrictions on drinking and gambling also attracts many people to the area for entertainment. The number of arrests made annually reflects the increased workload in all areas of law enforcement and this increase corresponds well with the increase in oil activity. As of December 15, 2012, the County Sheriff made 179 arrests for the year, up from 135 in 2009, or a 33% increase in the four-year period. During the last oil boom in the early 1980's, arrests peaked at 284 (1981).

### I. Facilities

With the increasing costs of providing law enforcement, meeting regulatory standards, and the advance technologies involved,

*Annual Arrests, Sheridan County Sheriff*




Sheridan County's law enforcement facilities have been largely consolidated in the county courthouse in Plentywood. The courthouse contains the jail, dispatcher's desk and control center, and offices of the County Sheriff, Driver's License Examiner, the County Attorney, and Clerk of Court. The Border Patrol has separate offices and facilities on Highway 16 north of Plentywood across from the golf course.

The County Sheriff's offices, control facilities, and the female and juvenile detention area were updated in 1974, although the original jail cellblock remains as it was built in 1938. The original cellblock contains six cells with a capacity of 12 prisoners. However, age and deterioration, the lack of adequate toilet facilities and occasional overcrowding make this part of the facility inadequate to meet modern standards. The newer addition contains the female and juvenile detention cells with a capacity for four prisoners with the total confinement capacity being 16 people. Because of strict standards for confinement facilities and the costs of confinement, the county jail is the only jail in Sheridan County and is used by all the law enforcement agencies in the county as well as receiving prisoners from Daniels County.

The newer confinement facilities and control center contain facilities for booking and processing, a kitchen and communications equipment. Changes in the jail area during the last courthouse renovation included moving windows to the north wall and using the Clerk and Recorder's vault for additional cells to bring the facility in closer compliance with state and federal regulations. The dispatcher's desk provides radio communication links for the sheriff's department, city police, border patrol, highway

patrol, game warden, ambulance and Plentywood School buses as well as controlling burglar and fire alarms. In 1998, the county updated to an enhanced 911 system operated by Nemont and compatible with the National Crime Information Center. The county switched to a CenturyTel system in 2007 on a contract basis. This system provides call-back, on-screen mapping and additional enhanced 911 support services.

**II. Personnel and Equipment**

Personnel in the County Sheriff's Department include the sheriff, under-sheriff, six deputies and a jailer. Vehicles include two trucks, two SUVs, and three patrol cars presently in service. Dispatch has become a separate department, employing six dispatchers.

Montana Highway Patrol is based in Glendive. The Montana Fish Wildlife and Parks game warden covers a district encompassing Sheridan County as well as Roosevelt and Daniels Counties.

With the increased activity and traffic in rural areas and the reduced populations in these areas, more property in rural areas is left unprotected. Steps should be taken to insure that law enforcement coverage is adequate to meet the increasing traffic accidents, trespassing, theft, vandalism and the illegal taking of game in rural areas.

**III. Judicial and Legal System**

As with other areas in law enforcement, the county's judicial system has seen increases in cases and workloads. The district judge travels to Plentywood from Wolf Point and serves Sheridan, Daniels, and Roosevelt Counties. The county has one Justice of the Peace who is located in the City of Plentywood. There are two attorneys in private practice in Plentywood. Legal services are also available in Scobey and Glasgow.

## Fire Protection

Sheridan County has two city fire departments and five fire districts covering all rural areas of the county. The fire departments have mutual aid agreements which allow fire trucks to cross over district and county lines.

Plentywood: The Plentywood Fire District covers nearly half the county in the central and northern portions and it has 24 volunteer firemen. City equipment includes three Type 1 engines; 1986 Pierce, a 1990 Pierce and a 2001 Kenworth, all with over 1,000 GPM pumps and over 500 gallon tanks. The Plentywood department also has three Type 6 wildland trucks with 250 to 400 gallon tanks and Type 2 and 3 wildland tender trucks.

Outlook: The Outlook Rural Fire Department is manned by 27 volunteers and its equipment consists of a Type 4 engine with a 250 gallon tank; two Type 6 engines with 250 and 300 gallon storage capacities; and a Type 3 tender holding 2,200 gallons.

Redstone: The Redstone Rural Fire District takes care of the western edge of the county and has 28 volunteer firemen. Its equipment includes a five Type 6 engines with 200 to 360 gallon capacities; one Type 6 tender storing 1,200 gallons; and one Type 3 tender with 1,300 gallon capacity.

Medicine Lake: The Medicine Lake City Fire Department includes the southern third of the county and is the largest with 30 volunteer firemen. Its equipment stationed in Medicine Lake consists of a Type 1 engine storing 1,250 gallons; three Type 6 engines storing between 250 and 300 gallons; and a Type 6 tender with 1,500 gallon capacity. Additional equipment stationed at the Dagmar Fire Hall includes two more Type 6 engines and a tender.

Westby: The Westby Rural Fire Department has 15 volunteers and covers areas in Divide County, N.D. as well as the north-eastern part of Sheridan County. City equipment consists of a one Type 1 Chevrolet engine pumping 750 GPM with a 1,000 gallon capacity; three Type 6 Ford engines pumping 225 GPM and holding 325 to 550 gallons; and one Type 6 GMC tender with a 3,300 gallon capacity.

In addition, the Montana Department of Natural Resources and Conservation keeps six Type 6 engines on volunteer farmland throughout the county, and particularly near the county borders.

The county office of civil defense is in the process of upgrading the fire department's training programs to include handling of chemical spills and fires. Large amounts of chemicals are currently shipped through the county from Canada and added training in this area is needed, although the county's fire departments do not have all the foam equipment needed for chemical or petroleum fire control. With the increase in oil production, the county also hopes to provide training, with oil company support, for the control of oil well and tank fires.

## Disaster and Emergency Services

Sheridan County has a Disaster and Emergency Services (DES) Coordinator. The DES Coordinator is responsible for the Local Emergency Operations Plan and oversaw the completion of Pre-Disaster Mitigation Plan in 2010.

DES is responsible for planning for severe storms (snow, thunderstorm, tornadoes). The outcome could include personal injuries, loss of life, property damage, power outages, crop damages, livestock fatalities and injuries, and damage to utility infrastructure. Planning for disasters and emergencies, natural

and man-made, are part of the Emergency Operating Plan. The plan was rewritten in 2010, it is reviewed annually and rewritten every four years as required. The disasters planned for in the Emergency Operating Plan are based on the concerns of Sheridan County residents expressed during public meetings. They range from a major snow storm to a possible terrorist attack. The disasters that concern residents the most are:

- Wildfires
- Winter storms
- Severe summer storms

A major component in any disaster is communication. Sheridan County DES maintains this communications system, including the siren warning system. Through the DES office, Sheridan County continues to support the Northern Tier Interoperability Project (NTIP) to improve communication between the emergency service providers at the federal, state, and local government levels in cooperation with the Department of Homeland Security.

Disaster and Emergency Services is responsible for providing assistance to the area's multiple emergency response agencies through assistance from the Montana DES office and various agencies that provide mutual aid during times of large-scale emergencies.

Most of Sheridan County emergency responders are volunteers, and with an aging and declining population the county is faced with daunting problems of providing the emergency response that county residents have come to expect and deserve. The problem is compounded by ever increasing training requirements by state and federal mandates.

The DES Coordinator is required to have an active Local Emergency Planning Committee. This committee is formed under SARA Title III Emergency Planning and Community Right-to-Know Act (EPCRA). The committee is required to work with private industry and the public concerning hazardous material handling and storage in the county. Local Emergency Planning Committee membership has expertise in various aspects of emergency response and planning, resulting in the Emergency Planning Committee becoming a Hazard Planning Committee. One of the many requirements placed the Emergency Planning Committee is to conduct an annual exercise. If the county accepts federal EMPG funding it is required to participate in three exercises annually.

## Water and Sewer

Most of the population in Sheridan County is served by centralized water and sewer systems; those being located in the towns of Plentywood, Medicine Lake, Westby, Outlook, and Antelope, with Reserve having only a sewer system. These municipal governments typically administer the provision of water, sewer and solid waste collection services. Several of these systems were constructed more than 30 years ago and have not had major renovations. Many of the county residents living in rural areas and smaller communities rely on Dry Prairie Rural Water System or private wells and cisterns for water, and septic tanks and cesspools for sewage disposal.

The lack of central water and sewer systems in the smaller communities may have contributed, in part, to their decline. The convenience of central systems makes a community more attractive to prospective home owners or businesses, and the costs of installing and maintaining individual water and sewer systems can be an inhibiting factor for new development.

### Dry Prairie Rural Water Authority

Thirty years ago, the county planning board conducted a survey to determine the water needs of rural residents in the south and central portions of the county, and to determine the feasibility of installing a rural water system. This effort ultimately led to the creation of the Dry Prairie Rural Water Authority (DPRWA).

Dry Prairie provides existing residents of Sheridan and Roosevelt Counties with treated drinking, agricultural and industrial water from the Missouri River. The Assiniboine And Sioux Rural Water Supply System provides water for residents on the Fort Peck Reservation.

Major project developments include a 13 million gallon-per-day treatment facility and an intake facility southeast of Wolf Point. When completed, DPRWA will pump treated water through 3,200 miles of pipes by 20 mainline stations to a design population of 31,000 residents. Currently, the project has completed construction of mainlines and branch lines as far as Medicine Lake, Antelope, and Dagmar, and is temporarily supplying water from wells in Culbertson until permanent sources are established. Participation in already constructed project areas is 95%. Rural residents of Valley, and Daniels Counties will also receive Dry Prairie water when the system is complete.

Estimated rates for an average households with 80% rural participation would be:

- Base rate: $32.20 per month
- $1.25 per each 1,000 gallons metered

**Plentywood: Water and Sewer**

Plentywood's water supply is obtained from a well located approximately three miles east of Plentywood along Highway 16. An additional well is used for standby purposes. Water quality is only fair because of high total dissolved solids and hardness. Storage consists of a one million gallon tank located northeast of town on the airport hill. The distribution system consists of four- to twelve-inch water lines and carries water to city users.

Plentywood's million gallon storage tank is adequate for the town's existing needs but additional capacity will be required to meet future demand. During the summer periods of heavy water use, the six wells do not supply water fast enough to meet demands, and rationing is occasionally necessary. The city is increasing its pumping capacity, including current plans for a booster station to increase water pressure for up to 240 households north of Pioneer Manor. The project is estimated to cost $250,000 to $300,000, with various sources of funding under consideration.

Plentywood's sewage is carried to the southwest edge of town by a collection system consisting of six- to fifteen-inch sewer lines. A lift station is used to force sewage from a low area in the southeast edge of town. Outfall lines of twelve- and fifteen-inch pipe carry the sewage from the collection point to the treatment facilities. Sewage treatment is handled by a two-cell 40-acre wastewater stabilization pond.

The City of Plentywood is currently studying the adequacy of its present system and possible alternatives to the lagoon-type treatment facilities. Estimates by the city's engineers indicate that the city's sewage system has a capacity to serve a population of 4,000 people. Figures from the 2010 census indicate that the city's population was 1,734, however the 2012 population is likely larger.

Current rates (September 2012) for city services to residences are as follows, (rates vary for commercial establishments):

- Water: $37.00 base rate plus 25¢/100 gal. over 2,100 gal.
- Sewer: $20.00 per month
- Garbage Collection: $13.00 per month

A 2005 lagoon and wastewater system inspection report concluded that the lagoon is in satisfactory operating conditions, however the dike is experiencing erosion problems that must be mitigated to satisfy future health and safety requirements.

**Medicine Lake: Water and Sewer**

Medicine Lake is currently supplied by Dry Prairie Rural Water through temporary well sources. The water distribution system consists of six- and four-inch water mains with adequate flow and pressure. The existing water storage tank has a capacity of 55,000 gallons.

Medicine Lake's sewage collection system consists of eight- and six-inch sewer mains which carry sewage to a point near the west edge of town. An eight-inch outfall line then carries the sewage to a lift station which pumps the sewage through a four-inch forced main to a two cell, 4.5 acre wastewater stabilization pond. The sewage lagoon was constructed in 1969 and presently has adequate capacity for the town's estimated 225 people, however erosion may jeopardize the lagoon's functionality. According to the town's consulting engineers, the system has a capacity for 500 people. Extending functionality to accommodate future growth will require an engineering study as to whether the overall capacity of the town's system is sufficient to carry the additional loads.

September 2012 rates for city services are as follows:

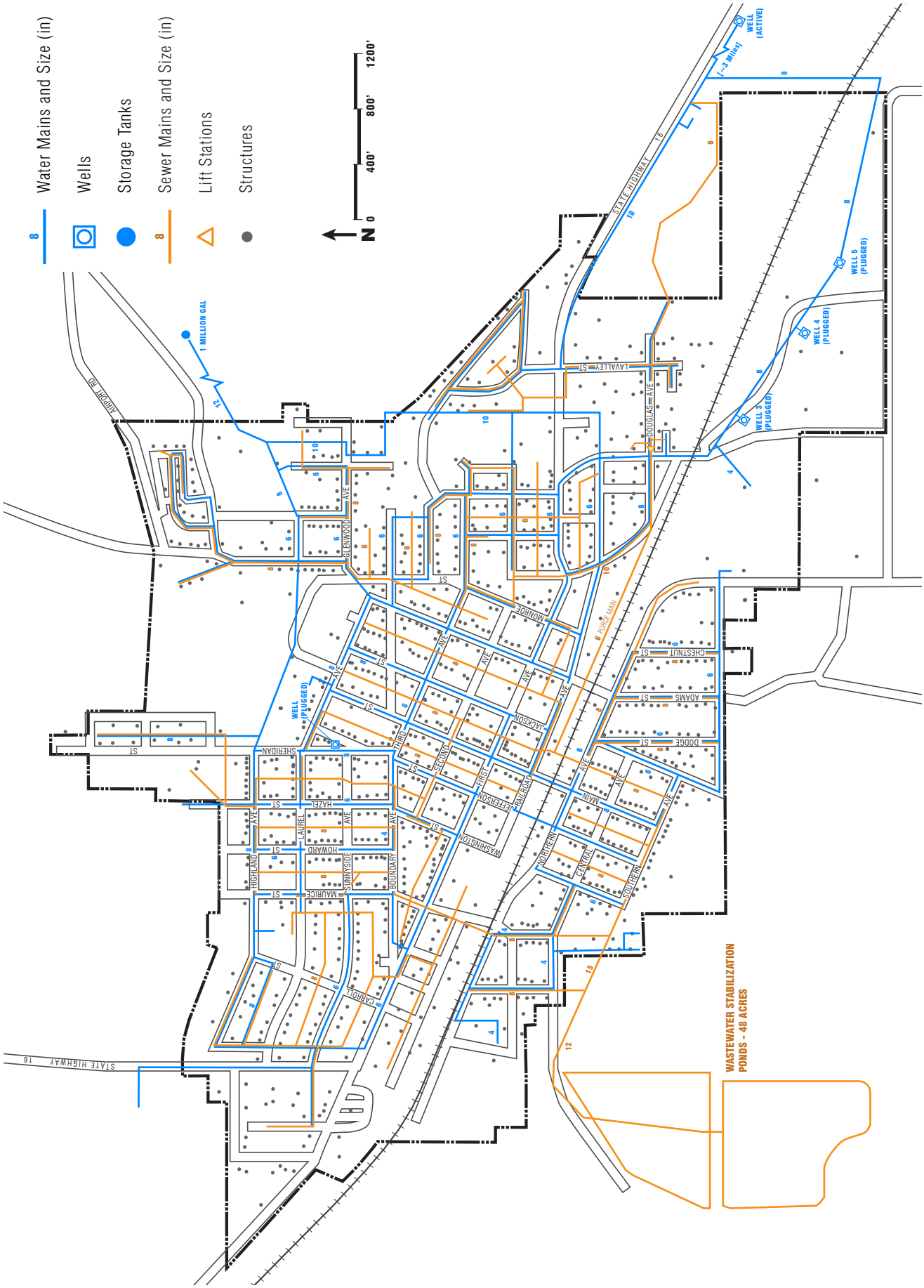
- Water: $26.76 base rate per month plus $3.15 per 1000 gals
- Sewer: $24.75 per month
- Garbage collection: $17.58 per month;

A 2010 lagoon and wastewater system inspection report concluded that Medicine Lake's lagoon has experienced erosion that could lead to leakage. The lagoon was otherwise reportedly well-maintained and has adequate service levels for existing demand.

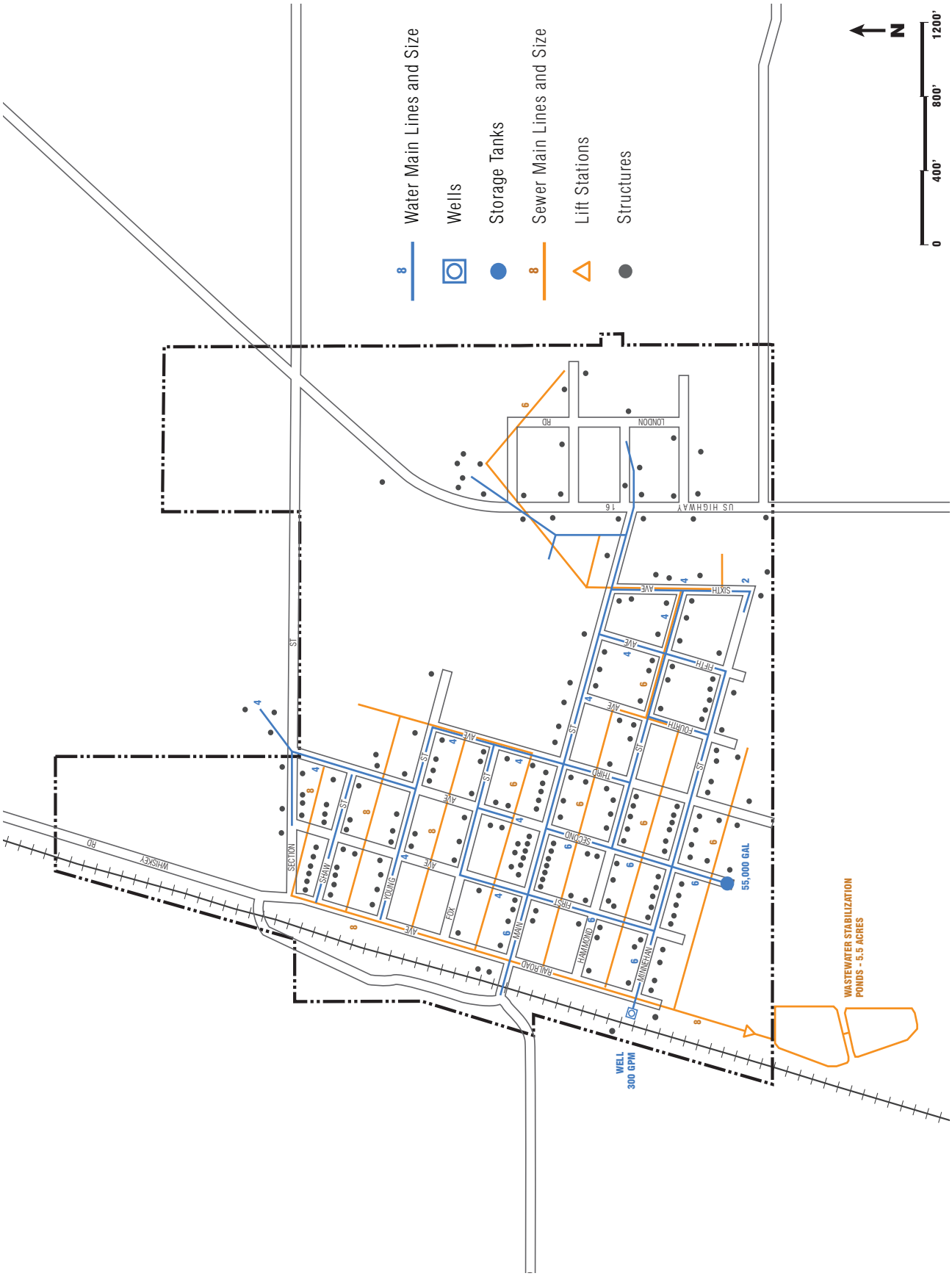
**Westby: Water and Sewer**

Westby's water supply is obtained from two wells within the city limits. The town has replaced one of the wells which is expected to bring the water supply up to adequate levels. Westby's water distribution system was constructed in 1958 and consists of six- and four-inch water mains, and is in good condition. The existing elevated storage tank has a capacity of 25,000 gallons and is adequate for the town's needs.

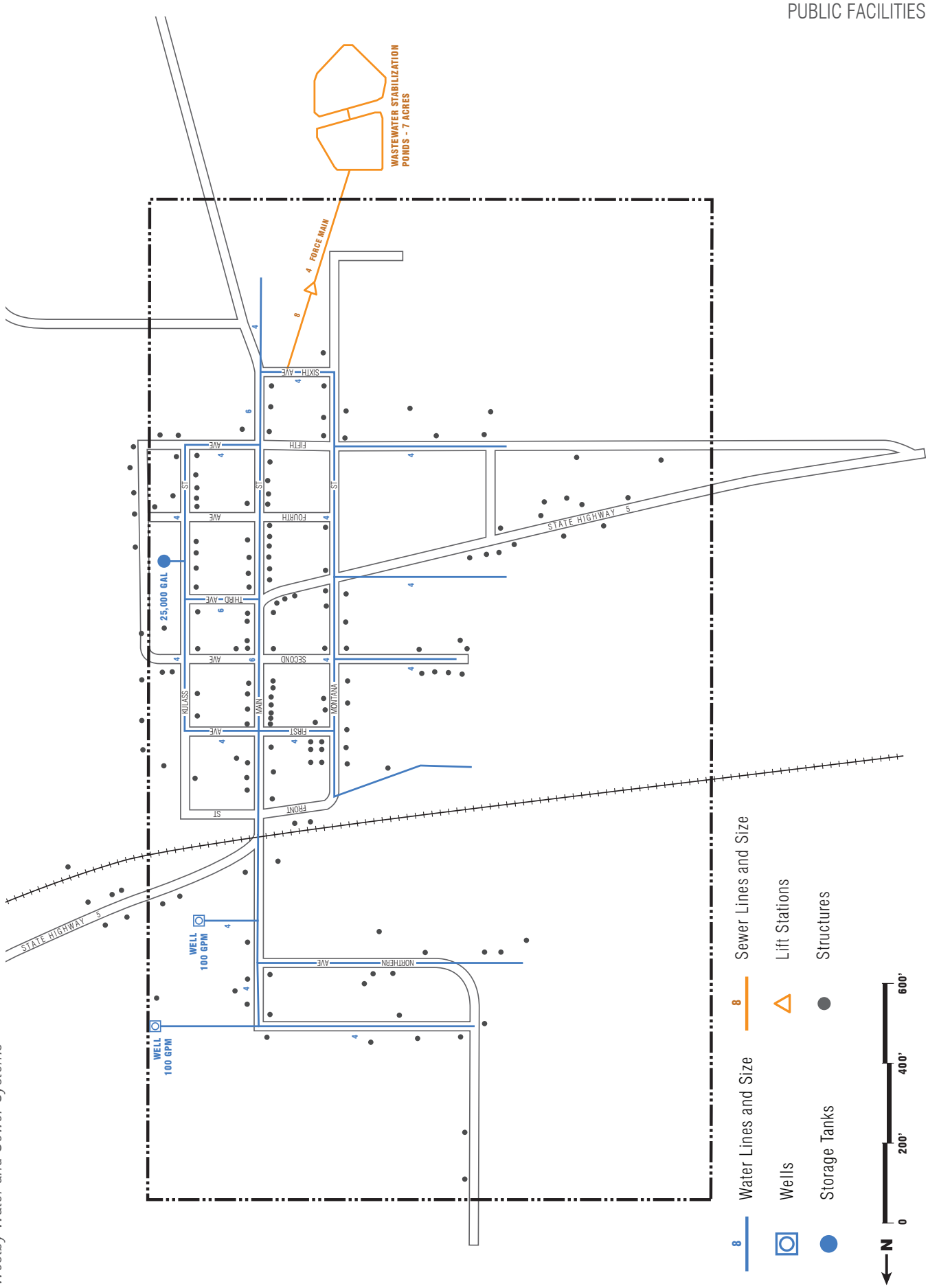
Westby's sewage treatment system was constructed in 1973 and consists of a gravity collection system with a three cell wastewater stabilization pond located south of town. The three cell system consists of 1.9 acre, 2.2 acre and 2.3 acre cells with a design capacity of 350 people. The 2010 census indicates that Westby had a population of 168 in 1980.




*Plentywood Water and Sewer Systems*




*Medicine Lake Water and Sewer Systems*




*Westby Water and Sewer Systems*

September 2012 rates for municipal services in Westby are:

- Water: $18.00 for first 1000 gallons plus $20 and $22 tiers
- Sewer: $11.00 per month

A 2010 lagoon and wastewater system inspection report concludes that the system is adequate for existing service levels, however excessive leaks were found and must be fixed to satisfy health and safety standards.

**Antelope: Water and Sewer**

The water supply in Antelope is obtained from Dry Prairie Rural Water Supply. A community wastewater system including a 100 GPM lift station and a six-acre, two-cell lagoon was constructed in 1986. System design capacity is 150 people. The estimated population in Antelope in 2010 is 50 people, with 31 sewer connections.

Current rates for community services for residents are:

- Water: $45 per month base rate + $3.00 per 1,000 gals
- Sewer: $10 per month

**Outlook: Water and Sewer**

Outlook currently obtains water from a public water supply system. Sewage disposal in Outlook is currently treated by a public sewer system constructed in 1984 using multiple funding sources including CDBG's.

Outlook's sewer system has a design capacity for 150 people.

**Reserve: Water and Sewer**

Households in Reserve obtain their water supply from private wells or have their water hauled to cisterns. Good wells are difficult to obtain in the area of the town site. Water quality from most wells is very poor and most drinking water must be hauled from suitable sources. Studies of well logs indicate that suitable sources could be developed near the town. Reserve has a public sewer system, however many issues have been report with the system design, which jeopardize its functionality.

**Homestead: Water and Sewer**

Water in Homestead is supplied by private wells. Local well water has high iron content and is generally of poor quality. Private septic tanks are used for sewage disposal. The area's soils are tight clay which does not accept effluent, and it is necessary to install shallow drain fields which function as evaporation beds, and these systems have continued maintenance and operational problems.

**Redstone: Water and Sewer**

The water supply in Redstone is obtained from private wells. There is a deep well located at the school and another deep well which is used by many residents. These wells have good water quality from a depth of about 600 feet. Septic tanks are used for sewage disposal and a tight clay soil requires the use of evaporation beds for adequate disposal.

**Dagmar: Water and Sewer**

The water supply in Dagmar is also obtained from Dry Prairie Rural Water. Private septic tanks are used for sewage disposal. The soils are tight clay but layers of gravel below the surface provide good drainage for sewage effluent.

**Solid Waste Disposal**

The disposal of garbage or solid waste has received a good deal of attention in recent years, primarily as a result of regulations developed by the State of Montana following guidelines established by a federal law known as the "Resource Conservation and Recovery Act of 1976".

The State of Montana amended its state laws and rules in 1977 to be in conformance with the new federal guidelines. The regulations set forth by the State of Montana include legal and administrative control over all phases of solid waste management including the following: (1) disposal site licensing, (2) standards for the operation and maintenance of facilities, (3) facility classification, (4) solid waste transportation and disposal of hazardous wastes, (5) litter control, (6) disposal of dead animals, (7) nuisances, and (8) disposal of junk vehicles.

The State regulations require that the following guidelines be used for operating sanitary landfills in the State.

1. All disposal sites must be fenced and limited in access to the number of days deemed necessary to adequately meet the needs of area users.

2. A minimum of six inches of soil must be placed on solid waste the same day the waste is placed at disposal site.

3. There is to be no open burning at a disposal site at any time without a variance.

4. Disposal sites must be located and operated such that the site does not create a public nuisance or health hazard.

Since the enactment of state solid waste regulations the landfills at Reserve, Antelope, Raymond, Outlook, and Redstone have been closed. The only landfill still in use is located in Plentywood. The landfill at Plentywood is currently the county's only disposal site in compliance with state laws.

Sheridan County's landfill is located 1.5 miles southwest of Plentywood. The site is approximately 40 acres in size and is owned and operated by Sheridan County with garbage pick up and hauling being performed by a contractor. According to local officials the site is nearing the end of its useful life. The city provides the contractor with an HD 16 crawler tractor for maintaining the site. The Sheridan County Road Department also assists in the operation of the landfill by excavating trenches when the need arises.

Residents of Plentywood, Outlook, Redstone, Medicine Lake, and Westby are served by door-to-door garbage collection by a private contractor. All wastes that are collected by this private service are transported and disposed of at the Plentywood Landfill. Garbage collection services are not available in the most remote corners of the county.

**Summary and Discussion**

As with many other state and federal laws, the solid waste regulations were enacted to meet waste disposal problems in urban areas. The requirements for daily cover, fencing, and controlled access of disposal sites are not economically feasible for small communities in our area. The restriction against burning dumps is intended to preserve recyclable materials, but at the same time it increases the amount of land needed for waste disposal. The expansion of a private door-to-door collection service in the county has allowed the smaller towns to close their dumps but has made it difficult for rural residents who previously used these landfills.

Outlets are presently available for the recycling of aluminum cans and newspaper to alleviate stress on landfills. The enactment of legislation requiring returnable bottles would further reduce landfill loads. Bringing county landfills into compliance with state laws or the development of a countywide refuse disposal district with garbage transfer to Plentywood does not seem to be economically or politically attractive but until residents become responsible for their own garbage those may be the only solutions.

## Utilities and Communications

Along with the improvements in transportation, the advancements in communications and electrical service have created the greatest changes in our social and cultural patterns and the way we live. Because of these technological advances, Sheridan County is no longer the isolated place it once was. Dependable supplies of electricity have allowed us to add many labor-saving devices and conveniences which have vastly improved our standard of living over what it was 30 or 40 years ago. The introduction of high-speed internet has and continues to make changes in the ways the community interacts. The increasing use of computers, satellite communications and advanced electronics have the potential to add further social and cultural change. To derive the greatest benefit from these relatively new technologies the community must examine and understand the effects it has on their lives and how it has changed their relationships with the community and their natural surroundings.

**I. Electricity**

The Sheridan Rural Electric Co-op, Inc. provides electricity to users in Sheridan County and portions of Daniels, Roosevelt and Divide County, N.D. The Sheridan REC is a consumer owned cooperative, organized in 1941 with its headquarters located in Medicine Lake. Approximately 50 percent of Sheridan Electric's power supply is provided by Basin Electric and the remainder from MDU and the Western Area Power Administration. Allocations of power supply are managed by the Upper Missouri Generating and Transmission Board which has a membership made up of eleven members REC's. The Upper Missouri G and T is in turn represented on Basin Electric's board which supplies power in five states.

The Sheridan REC has 13 substations in its service area, and three separate transmission lines bring power into the area. The largest growth in electrical demand has occurred recently in supplying electricity for irrigation and oil development. Current 2012 rates residential service are:

- $15.00 per month per meter
- Base rate: 0.9¢ per kwh

Montana Dakota Utilities generally supplies electricity to the towns in Sheridan County including Homestead, Medicine Lake, Reserve, Antelope, Plentywood, Outlook, the Outlook Oil Field, and Redstone. MDU has its own electrical generating sources, mainly coal-fired, and excess demand is supplied by the power grid managed by the Upper Missouri G and T Board.

MDU's current (2012) rates for residential electricity service are:

- Base rate: 0.18¢ per day
- October to May: 4.816¢ per kwh
- June to September: 6.813¢ per kwh
- Base Fuel and Purchased Power: 2.084¢ per kwh

MDU's current (2012) rates for natural gas service are:

- Base rate: $6.35 per month
- Distribution delivery charge: $1.353 per month

### II. LP Gas and Other

Liquefied petroleum gas and fuel oil are provided by private commercial establishments. Natural gas is cleaner and more efficient than most domestic uses of electricity or fuel oil. Sheridan County is producing natural gas from its oil fields yet none is available for use in urban areas of the county. Along with efforts to conserve energy, the development of a natural gas distribution system for local towns should be pursued in order to increase energy self-reliance and security.

Formerly, Westby was the only town in northeast Montana which provides LP gas service however that service was discontinued. Their system was constructed in 1972 and updated in 1980. The town purchased gas wholesale from a propane plant at Tioga, N.D. and the gas was stored in a 10,000 gallon tank for local distribution. Gas was distributed to approximately 100 users in Westby.

### III. Internet and Telephone

Telephone service in Sheridan County is provided by the Nemont Telephone Cooperative Association. Nemont is a consumer-owned cooperative headquartered in Scobey, and it provides rural phone service to all of Sheridan County and Daniels County as well as parts of Roosevelt, Valley and Divide County, N.D. Nemont provides television, high-speed internet, and other communications services via transmission lines to rural areas. Such added services would help to enhance rural living. Wireless telephone services are also available from multiple providers.

### IV. Radio and TV

Sheridan County has one radio station which is located in Plentywood. KATQ is an AM and FM radio station. County residents pay for cable television services provided through local cable providers, or acquire service from satellite television providers.

### V. Newspaper

The Sheridan County News, a weekly paper, has been the county's official newspaper since 1994. Previously, the Plentywood Herald had been publishing since 1909. The Greeter, a free weekly paper out of Plentywood, has offered notices, advertisements, and classified posts since 1986. The Searchlight, a weekly paper out of Culbertson, also covers news in the region. Additional regional papers include the Daniels County Leader and the Wolf Point Herald-News. Daily papers are generally available out of Great Falls, Billings, or Williston, North Dakota.

### VI. Post Offices

There are nine post offices in Sheridan County: Plentywood, Medicine Lake, Westby, Outlook, Antelope, Dagmar, Redstone, Reserve and Raymond. Most of the service is provided by post office boxes with star and rural routes providing service in the rural areas. Residential mail delivery is provided in Plentywood. With the increased population and business during the past oil boom there was a shortage of post office boxes in Plentywood and Medicine Lake, and they had to rely on general delivery to provide the added services. The Plentywood post office has expanded its number of boxes to meet the increased demand.

## Recreational Facilities

Recreational activities in Sheridan County consist largely of traditional sports such as hunting, fishing and ball games with snowmobiling and bowling in the winter, and golf, swimming and boating in the summer. Cross-country skiing, racquetball and tennis are also becoming popular pastimes.

There are a variety of private facilities and areas available for recreational uses in the area. Sheridan County is probably best known for the abundance of public game animals found here, primarily white-tail deer, upland game birds and migratory waterfowl. Fishing has also become quite popular recently with the stocking of the lakes on the wildlife refuge. Box Elder Dam, Raymond Dam, and other smaller farm reservoirs are also stocked with fish. Brush Lake and Clear Lake are popular for boating, water skiing and swimming.

As well as government agencies, the local schools and churches generally have facilities available for community use. The County's high schools have gymnasiums, playgrounds and ball-fields which are usually available for public recreational use. Local churches are generally the center of community social activity and provide a place for club and organization meetings and public gatherings.

### Brush Lake State Park

Brush Lake, a small freshwater lake located approximately five miles east of Dagmar, is home to a 280-acre state park and recreation area. Facilities include a boat ramp, RV campground, and restrooms.

### Medicine Lake Wildlife Refuge

Although the Medicine Lake National Wildlife Refuge was created (in 1935) for raising and protecting migratory waterfowl, it does offer a variety of outdoor recreational opportunities. Eleven-thousand acres in designated areas of the refuge are open for the limited hunting of deer, waterfowl, and upland game birds. Predator hunting and trapping is allowed on a permit basis. Northern Pike have been planted in the lakes, and fishing has become popular in the last few years, including ice fishing in the winter.

Along with these traditional recreational activities, the refuge is available for hiking, cross-country skiing, bird watching, and non-motorized boating. Because the pressures from these recreational uses are light, the regulations covering these activities are fairly liberal. Some areas of the refuge have restrictions on access and users should check with the refuge manager before using these public lands.

Public facilities include a parking area on the west end of Medicine Lake. Photo blinds may be set up each spring (usually in April) on the Sharptail grouse dancing grounds.

**Sheridan County Fairgrounds and Museum**

The Sheridan County Fairgrounds, located on the east edge of Plentywood, cover roughly 80 acres and was donated to the county for that purpose in 1929. The Sheridan County Fair celebrated its 72nd showing in 2012, featuring 4-H and community exhibits, commercial displays, live music, and saddle club events. Along with the County Fair, areas of the fairgrounds property are set aside for use by the saddle club, trapshooting club, old tractor club, county road department, highway department, soil conservation service, and the county museum.

The Sheridan County Museum first opened in 1969 with a second addition in 1973 doubling the size of the existing building. The museum provides a look into the past for residents of Sheridan County with many of the exhibits on loan or donated by area homesteaders. The museum is operated by the Sheridan County Historical Society with funding from the County and Historical Society donations and projects such as the Sheridan County Daybreak book. In 1982, the County constructed a new structure just south of the museum to house antique tractors and to provide a multipurpose room for large group functions. The newest building has 27,000 square feet of floor area and contains a tractor display area, additional displays, conference room, and a large meeting room with full kitchen, restrooms, stage, and dressing rooms.

**City of Plentywood**

Recreational facilities in Plentywood include six city parks, a golf course, the Box Elder Dam recreation area, and a number of private recreation facilities. Box Elder Dam located just north of the city was built in 1963 for flood control and recreational use. The entire recreation area covers roughly 200 acres with 90 acres of water area. The reservoir is stocked with trout and perch and is available for fishing, boating, waterskiing, swimming, and winter recreation. The area around the reservoir has sheltered picnic tables, restrooms and boat ramp. A ten acre area below the dam provides overnight camping spaces and restrooms.

The Plentywood Golf Course covers an area of roughly 120 acres on a 142.9 acre parcel owned by Sheridan County. The nine-hole course borders the north edge of the city and is leased by the Plentywood Golf Club which maintains the grounds and clubhouse.

Sportsman Park, located on the southeast edge of the city, is part of the city's old airport property. Sportsman Park contains three fenced ball diamonds, two with lighting.

Sherwood Park, located in the northwest part of Plentywood, is 2.4 acres in size, and is complete with swimming pool, playground equipment, picnic tables and shelters, horseshoe pits, a skating rink, and a public swimming pool.

Wildwood Hall and its park cover approximately one half (.46) acre and is the site of the city's old swimming pool. The hall is available for public use for parties and meetings for local organizations.

Polly Park is located in the Overgaard Second Addition in the southeast part of Plentywood and covers 1.4 acres. It was furnished with playground equipment in 1981 through a private donation.

Mill Park, located in the LaValley Addition on the east side of town and adjacent to Highway 16, covers an area of 1.3 acres.

Private recreation facilities include an indoor movie theatre, a bowling alley, and two recreation centers. The recreation center on the south side is across from Sportsman Park and provides handball/racquetball courts, a weight room, and saunas. The recreational facility on the north side is near the golf course and Pioneer Manor.

**Town of Medicine Lake**

There are two parks in the Town of Medicine Lake. The park adjacent to city hall is relatively unimproved with picnic tables and a basketball court. The City Hall and old jail are used as a senior citizen center. The other park, located north of the east end of Main Street, was donated to the town in 1969 by the Medicine Lake School. This park covers 3.26 acres and contains a swimming pool, two tennis courts, horseshoe pits, picnic shelters and tables, and playground equipment. The Medicine Lake School provides the community with a ball diamond which is adjacent to the swimming pool.

**Town of Westby**

Noelle Meyer Memorial/Onstad Park is located in the southwest part of town and contains horseshoe pits, playground equipment, picnic tables and shelters, and a lighted ball diamond. Along with the park, the school has a playground and ball diamond.

Two skating rinks are provided for outdoor winter recreation. The town also owns the old showhall which is used for plays and local presentations. It is maintained and operated by the Westby Community Club.

Sources

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Montana Dakota Utilities Company: http://www.montana-dakota.com/Pages/Overview.aspx

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## Natural Resources

The development of our natural resources has and will continue to bring change to our area. In the past, the discovery and development of new sources of energy has brought manufacturing and processing industries to those areas where the fuel supplies are found. The development of pipelines, railroads and electric transmission lines have helped to reduce this trend, although not completely. Operating projects include coal-fired electrical generation at the Poplar River Power Station in Coronach, Saskatchewan. A national energy program to actively develop western coal or a national synthetic fuels program could easily bring rapid industrial development to our area. Even if such developments were nearby, as it is at Coronach, Sheridan County might feel the effects of increased population, air pollution and the increased demand for water.

The effects of large population migrations to the west accompanying energy development would increase the demand for all our resources as well as create lasting changes in our existing social and economic structures. Large populations in the west would improve our proximity to markets for locally produced products and would encourage the development of resources which were previously uneconomical to develop.

Nobody likes to change the lifestyle to which they are accustomed, but clearly changes will have to be made, one way or the other. The expanding development of our natural resources to their limits will have obvious detrimental effects on our lives and our environments. A more pleasant alternative would be to encourage conservative lifestyles and develop renewable energy sources such as wind, solar, and grain alcohols. Energy and resource self-sufficiency would reduce our dependence on massive technological systems and increase our ability to weather unstable economic conditions. The time to make the needed changes is growing short, and the longer we continue on our present path, the more difficult it will be to make the transition. Our natural resources are limited and hopefully we can leave some for future generations who will need them more than we do.

### Water and Air

Water and air, along with the soil, are the primary ingredients for our agricultural prosperity. The importance of our water and air resources has recently become more noticed as the demands for their use increase.

Adjudication of surface waters in our area has been complicated by the Fort Peck Tribes' claim to all the waters flowing on or bordering the Reservation. Those claims may hold up adjudication until the federal courts make a decision.

Along with this the Saskatchewan government has asked the International Joint Commission (IJC) to recommend apportionment of waters flowing out of Canada via Beaver Creek into the Big Muddy. A task force of water specialists has been set up to study apportionment of Beaver Creek water, and they will issue their findings to the IJC, which in turn will hold public hearings and solicit public comment before making their recommendations to the Canadian and U.S. governments.

The allocation of Beaver Creek water will take into consideration existing uses such as irrigation and may include Farmers Potash industrial water permit application for 7,500 acre-feet. A possible reason for the request to allocate Beaver Creek water may be that those waters could be diverted to increase the available water supply for the Poplar River Project near Coronach. In any event, the proceedings to allocate Beaver Creek water will take a number of years and some public debate before being completed.

The Bureau of Reclamation has made various studies of the irrigation potential in Sheridan County - mainly using water storage sites, canals and involving large federal projects. Their studies indicate that there could be 56,000 acres irrigated by these methods. However, sprinkler irrigation and individual irrigation systems seem more practical, especially where wells can be developed to provide adequate water.

Until recently, irrigation in Sheridan County consisted mainly of water-spreading systems. Water-spreading, or flood irrigation, is dependent on ample spring runoffs for once-a-year applications which limit its usefulness. Sprinkler irrigation is more dependable but requires greater capital investments and an adequate continuous water supply. In other states in the semi-arid Great Plains, sprinkler irrigation systems are being used extensively to increase productivity. The use of sprinkler systems should remain popular, especially where groundwater supplies are plentiful.

With the current uncertainty and debate over rights for surface water, groundwater rights will become a more important issue. Agricultural water users should be encouraged to claim and develop underground aquifers to ensure an adequate future water supply. As with all our natural resources, the potential for water development is limited and studies should be conducted to determine the extent to which they may be developed before the supplies become depleted.

**Water Quality**

Along with the quantity of water available there has been recent concern for the availability of water quality. All of the water used for domestic consumption in Sheridan County is obtained from wells. In many areas of the county the available aquifers have a high mineral content and water for human consumption must be hauled some distance. Good quality water is a necessity, and area residents should be encouraged to protect this precious resource. Care must be taken in the siting of septic tanks and the disposal of toxic chemicals to prevent the contamination of groundwater supplies.

Increasing industrialization, the use of chemicals and heavy stream sediment loads have led to the enactment of laws designed to protect water quality. Section 208 of the Federal Water Pollution Control Act Amendments (PL 92-500) was enacted by Congress in 1972. This act made it possible for state and local governments and Indian tribes to control sources of water pollution. Initially, emphasis was on controlling pollution traceable to a single source such as industrial waste discharges. Since then there have been efforts made to control pollution from general or non-point sources such as fields and farms. In 1978, Conservation Districts were control of non-point pollution and determining methods of control.

Saline seep and soil erosion are two of the more obvious sources of non-point pollution caused by farming. Farming practices are being developed for the control of saline seep. Grassed waterways and contour farming can greatly reduce sediment loads carried from field runoff. Care should be taken in the application of field chemicals so that they are not carried beyond the point of application.

With the increase in oil exploration and drilling activity, the potential for increased groundwater pollution exists. Landowners should be encouraged to insure that seismograph shot holes are properly plugged to prevent the depletion of aquifers. The proper disposal of salt water and other oil field wastes must be encouraged to prevent the degradation of ground and surface water quality.

The construction of large reservoirs on the main tributaries of the Big Muddy will reduce the flushing action of spring flooding and increase water stagnation and the buildup of boron and other dissolved solids. The water supply of towns and farms in the Big Muddy Valley may be jeopardized by the construction of dams on the main stream, and citizens should be encouraged to carefully assess the impacts of such projects.

**Air Quality**

Because we are located in a remote area we have remained largely unaffected by the increasing levels of air pollution in other parts of the world. Except for some dry windy days, the air quality in our area remains much the same as it was 100 years ago, sweet and pure, and we tend to take it for granted.

The location of the Poplar River Project at Coronach, completed in 1983, may have some long-term affects on air quality, as it is located in a direction from which many of our winds flow. Of the four planned units, two were constructed. Each 291 megawatt unit burns 1.8 million tons of coal per year. With 99 percent of the particulates removed from the smoke produced, each plant still emits roughly 6,000 tons of particulates and four million tons of CO2. Large quantities of sulfur dioxide, nitrogen oxides, and other trace elements are also emitted. After a number of years the cumulative effects of these pollutants may gradually increase the incidence of circulatory and respiratory disease in our area.

Because these power plants are located across the international border, it was initially difficult to require strict pollution controls or to correct any ill effects, however increased regulations have been put in place since the plant's construction.

Another side-effect of the Canadian power plants are the restrictions it places on industrial development in our area. The Clean Air Act places restrictions on the degradation of air quality. The Canadian plants will generally reduce our air quality and decrease the amount of pollution allowed for any coal-fired industry in our area, such as potash. Along with this, the Medicine Lake Wildlife Refuge is designated as a Class I area and the Fort Peck Tribes are seeking Class I designation for the Reservation which will further limit allowable air pollution by industry; at least on this side of the border.

## Oil Resources

Oil development in the Williston Basin started with the discovery of oil near Tioga in 1951. Five years later in 1956, Sheridan County's first producing well was drilled near Outlook. The Williston Basin was developed rapidly during the late 50's with peak production occurring in the mid-1960's. Initial development of oil in the county was from the relatively shallow pay zones of Mississippian Age and taken from four main fields: Outlook, Flat Lake, Goose Lake, and Dwyer.

The Bureau of Land Management , through the Energy Policy and Conservation Act of 2000, has developed a report that estimates the remaining oil and gas reserves under US soil. The amount of undiscovered, technically recoverable oil (UTRO) in Sheridan County ranges from zero to 12.1 million barrels,with the highest estimates lying along the Montana-North Dakota border and in a small western part of the county. Most of the county has a UTRO estimate between one and 2.6 million barrels.

Following the mid-1960's, oil exploration and development lagged, prices were low and the supply of Mideast oil was plentiful. After the Oil Embargo of 1973, oil prices began climbing rapidly. The exploration and development of deeper pay zones soon became profitable, and activity resumed in the Williston Basin.

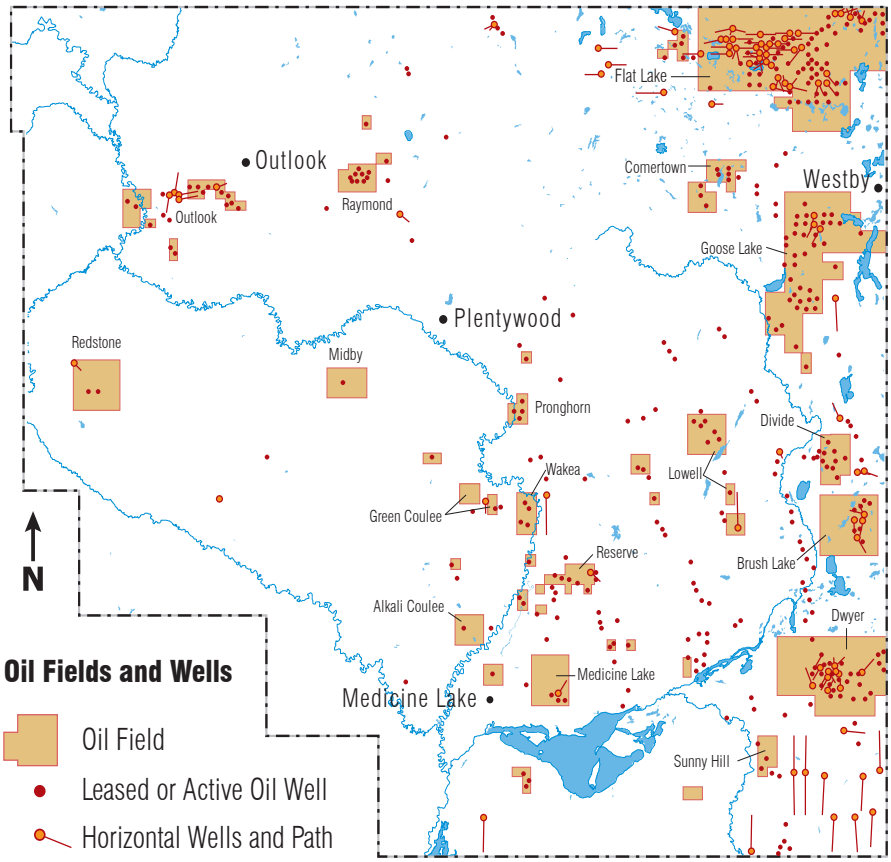
During the late 1970's and early 80's oil development expanded considerably in Sheridan County with new pool discoveries occurring rapidly, however these new pools in the deeper pay zones are smaller and more scattered. In late 1981, the world oil market became glutted and prices began to fall, cutting short Sheridan County's oil boom. Drilling activity returned to pre-boom levels through the 1980's and the world price of oil continued to affect oil activity in our area.

After reaching a low in 1999, productivity began increasing in northeastern Montana's oil fields during the early 2000's, correlating with a global oil price and production increase. Advances in drilling technology, specifically related to horizontal drilling and hydraulic fracturing – or "fracking" – led to unprecedented production gains in the Bakken and Three Forks shale formations beneath the Williston Basin. The Flat Lake, Goose Lake, and Dwyer fields are still among the most productive, with the Brush Lake, Divide, and Outlook oil fields recently experiencing production.

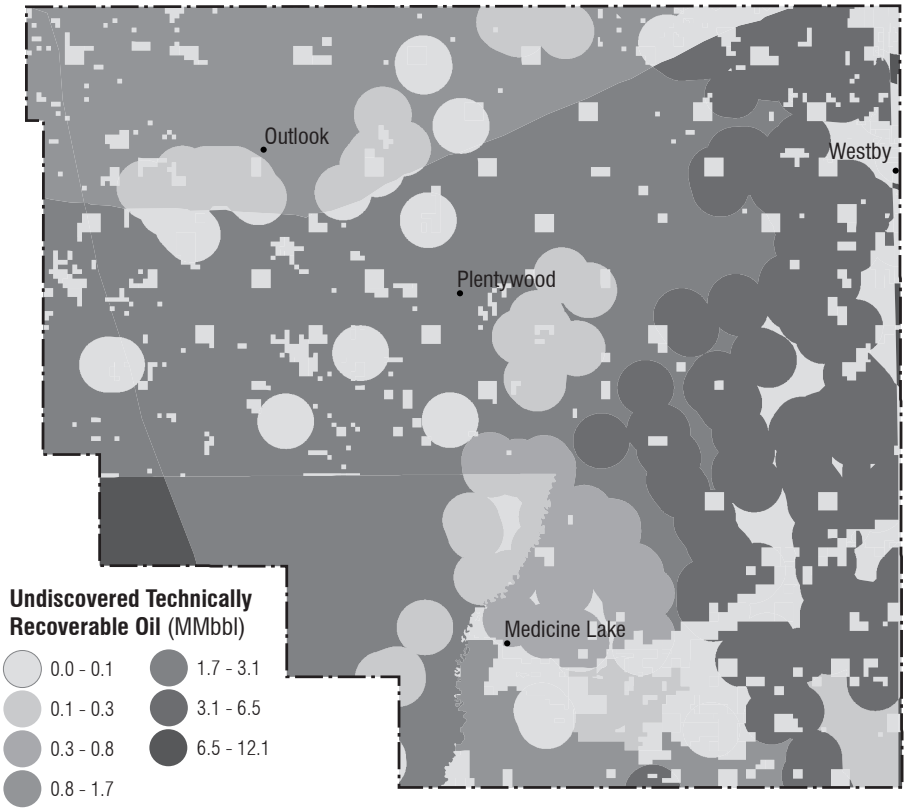
In the period from 1983 to 2010, the northeastern Montana region (Sheridan, Richland, Daniels, Roosevelt, McCone, Dawson, Prairie, Wibaux and Fallon Counties) has produced over 518 million barrels of oil with 22.6 million barrels produced from over 2,000 wells in 2010. With the 2011 slowdown in exploration and production, 2012 will probably again see an increase in production. Production levels have reached all-time highs as recently as 2006.

Past oil development brought economic prosperity to Sheridan County, stabilizing the decline of its small rural towns and creating an economic boom in Plentywood. Once again, the increased employment, an increased demand for housing and services, and the wealth generated from leases and royalty payments will likely fuel an expanding economy for Sheridan County while much of the rest of the nation recovers from a deep recession. However, Sheridan County, unlike its neighbors in North Dakota, has yet to feel the full impact of the boom, both in oil production and economic development. Yet many indicators signal it is coming, and the county must take measures to plan for a sustainable future; one that strives for equitable benefits while remembering that a bust is inevitable.

*Sheridan County Oil Fields, January 2013*




*Undiscovered Technically Recoverable Oil, Sheridan County*



The amount of wealth generated from the 22.6 million barrels produced in 2010 is estimated at over 1.8 billion dollars with an average wellhead price per barrel at $80.60. Although actual production in 2010 was slightly less than the peak in 2006, the taxable value was 40% higher. Increased property taxes, revenues generated from added employment, and increased economic activity bode well for a regional economy that has seen decline in the past decade. Horizontal drilling and hydraulic fracturing has created a dramatic rise in oil production in recent years.

The added prosperity and increased activity causes problems, which can be referred to as oil impacts. The following is a discussion of some of the impacts generated by oil development.

## Employment

The average rotary drilling rig in Sheridan County in the 1980's directly employed 21 people with additional people employed in oil field services and related activities such as seismographers, geologists, lease agents, heavy equipment operators, maintenance, pipeline and facility construction workers, and tank-truck drivers hauling crude oil, water and drilling muds. In February 1980, there were eight rotary rigs in Sheridan County which would directly employ around 170 people. Supporting personnel would probably double that employment figure. Today, the average fracking rig employs many more people, however the distribution of workers is much different. Completing the drilling phase of a frack rig requires many truck drivers to deliver water and fracking fluids to the drill site, and subsequently take the used fluid and oil to a disposal site. The flow of trucks is constant during this phase. These drivers are typically from out of state, work for several weeks, and then return to their home states for several weeks.

The increased population, economic activity, and added demand for services indirectly increased employment in other areas such as building construction, restaurants and taverns, motels, police protection, and medical and retail services.

Past oil activity provided jobs for many residents of the county and helped to stall the county's population decline. The higher salaries paid in the oil fields, in most cases, draws workers away from existing employers and creates labor shortages in areas where salaries and benefits were lower, a trend seen in and around communities in Williams County, North Dakota.

## Economy

Oil activity has stimulated growth in Sheridan County's business activity, housing and related oil field services. Royalty and lease payments increased the buying power of rural property owners and helped to stimulate the retail farm equipment and construction trades. The increased demand for housing helped to stimulate the construction businesses through increased subdividing activity and more house and rental unit building. The increased retail and service demand led to the creation of new businesses and the expansion of existing businesses.

In the past, sudden drops in oil exploration activity revealed the other side of the economic impacts. Businesses which were created or expanded to provide services or facilities for the oil boom were forced to reduce employment and cut costs or close to meet the lowered levels of economic activity.

Because increased production was brought on line during previous oil booms, the local oil economy remained at higher levels than before the boom. The oil activity can be expected to remain even after all the fields are discovered and developed. As world oil supplies become depleted and oil prices climb, it will become increasingly profitable to use secondary and tertiary recovery methods and to develop production which is now marginally uneconomical.

## Housing

Before the oil bust of the early 1980's, much of the increased housing demand was concentrated in Plentywood because it is the local trade center and has the largest variety of established businesses and services. The trend toward urban concentration in Plentywood began with the decline of the outlying small rural towns, and the oil boom increased its rate of growth considerably. Medicine Lake also experienced an increased demand for housing, largely due to its proximity to the oil activity and the availability of basic services there.

The transient nature of oilfield employment leads to higher demand for temporary housing like mobile home facilities and rental units. Much of the new, permanent residential construction is done by established residents who have vacated older homes or have moved to town from the country. The increased costs of housing have also made mobile homes more attractive to new home owners and added to the demand for mobile home spaces. During the oil boom the mobile home parks in Plentywood have filled to capacity, and most vacant lots in Medicine Lake were filled in with mobile homes. Rental space remains limited and added capacity will be needed with any increase in demand.

Throughout the region, the demand for rental housing is encouraging the construction of close-quarter, temporary workforce housing units commonly referred to as "man camps". Typically, these complexes are large-scale facilities that include recreation space, cafeterias and family units for oil workers under a single employer. Lately however, smaller, less self-sufficient or regulated developments have been built, often resembling mobile home parks. Such proposals put a municipality's ability

to provide services in jeopardy, creating potentially causing detriment to the public health and safety. Regarding such projects, land use regulations can provide a process for local governments to make sound decisions on the future housing needs of their city or county.

*Man Camp, Williston, ND*

Additionally, longtime residents are tempted to vacate older homes in the face of increased demand, home values or rents. This creates hardships for renters on fixed incomes or who did not benefit from the high incomes generated by oil development. In terms of meeting the short-term demands for housing created by oil development, it seems more practical to develop mobile home parks or temporary housing for transient needs as opposed to the construction of more permanent apartments and rental units which may not be needed after the boom.

*Temporary Housing, Plentywood*

Probably the greatest oil impact generated in the public sector is the demand on the county road system. County roads built for farm traffic have not held up under the heavy traffic generated by activity in the oil fields, and the roads have deteriorated faster than they can be repaired or maintained. Oil-generated taxes have allowed the county to improve its road services, but that amount of income remains inadequate to meet the high costs of maintaining and updating the county's heavily impacted road system.

Along with the increased road use there is also an increased demand for other public services such as schools, emergency medical and social services, and public water and sewer systems. These public facilities were adequate to meet the peak demands but the water supply and sewer system in Medicine Lake and the water supply in Plentywood were close to their maximum capacities and will have to be expanded if similar levels of demand are encountered again.

## Coal

Sheridan County is included in the extensive area of the northern Great Plains underlain by the Fort Union lignite coal deposits. All of the subsurface area contains coal deposits with much of it relatively close to the surface except where there are deep deposits of overlying glacial till.

Until World War II, coal was used as a primary energy source for county residents, and small coal mines operated throughout the county to meet local needs. At the time of homesteading, coal was considered a national resource, and the federal government reserved most of the mineral rights to coal except on state school lands and land homesteaded before 1909. Following WWII, the increasing use of petroleum fuels and rural electrification replaced the less convenient forms of coal energy used for such things as home heating and cooking. By the end of the 1950's most of the coal mines in the county had closed.

Now, due to our country's heavy reliance on petroleum fuels, the supplies are becoming limited and national attention is again being focused on developing the nation's coal reserves. Because of the massive industrial technologies involved, the largest and most accessible coal deposits are being developed first. Sheridan County's strippable coal deposits are relatively small compared to other areas. This, along with the fact that much of the surface ownership is privately owned would, for the time being, seem to discourage large strip mining operations for our area. On the other hand, nearby large supplies of unreserved underground water, free of international and Indian litigation, would be attractive for coal-generated electric power plants and industrial development requiring large amounts of coal and water.

Currently the county is not seeing its coal resources being developed. Large scale development would have a severe impact on the county, with a large population influx straining local community facilities, altering the social structure, and stimulating a boom economy.

Clearly the nation, as well as residents of Sheridan County, will have to depend on the increasing use of coal for energy.

*Estimated Strippable Coal Deposits, Sheridan County and Region*

But it would seem far more practical to develop small local mining operations for local needs as opposed to the disruptive large scale strip mining.

The total coal reserves in Sheridan County are estimated to be around 5.76 billion tons while only an estimated 454 million tons are determined to be strippable deposits. Strippable coal is generally defined as coal which occurs in beds five or more feet thick, under a maximum of 200 feet of overburden for thick or multiple beds and 120 feet for others, and adhering to a rule of 10 to 1 ratio of cubic yards overburden removal to coal tonnage produced.

The map on the opposite page shows the general location of known strippable coal deposits in Sheridan County. There are indications that there are other deposits of strippable coal which mineral exploration has not confirmed.

It is impossible to predict the future of coal development in Sheridan County. The largest strip mines in Montana produce around 10 million tons per year, and at that maximum rate the Reserve field could support a mine for 25 years and Coalridge for 15 years. A 300 megawatt coal-fired power plant, such as the one built at Coronach, Saskatchewan, requires 1.8 million tons of coal annually. The Farmer's Potash proposal for development would require a 70 megawatt power plant consuming 600,000 to 800,000 tons of coal annually. These smaller rates of production would be more feasible for Sheridan County's coal fields and would be more applicable for mine-mouth power plants or for small mines for local consumption as opposed to the large capacity mines which export to various out-of-state utilities.

The Fort Peck Tribes have studied the feasibility of opening a strip mine near Fort Kipp in Roosevelt County for their own use. As long as they support a policy of coal development for their own use, there would be little chance of the Reserve or Medicine Lake coal fields being strip mined, since they own most of the coal mineral rights in those areas.

Although not indicated, there is private ownership of coal in the Coalridge field. Privately owned coal would be less subject to federal development restrictions and be more likely to be developed first. In some cases the coal ownership was purchased and has been mined in the past.

The development of small coal mines in this area would probably be beneficial to the local community and have few impacts. On the other hand, large strip mines would require the development of rail loading facilities and a railroad spur if the coal is not hauled by truck. Large scale development would disturb farmland and local underground water supplies. Construction of large strip mining facilities would have a short-term impact on schools and other community facilities, but, when operational, machines do most of the work and such a facility would have relatively few employees to impact local facilities.

## Potash

The potash deposits in Sheridan County lie at the southern end of the world's largest known high grade potash deposit, the bulk of which is located in Saskatchewan. At the US Border the deposits lie at depths of around 7,000 feet and are found in association with salt deposits of Devonian age which were deposited about 350 million years ago. A test well drilled at Scobey found 50 feet of potash in a 250 foot salt bed at a depth of 8,200 feet. At its northern edge the potash deposits are found at a depth of around 3,000 feet, which allows for conventional shaft mining methods. In our area the deeper deposits would require extractions by solution mining methods which were developed in Canada during the 1960's.

The deposits in Saskatchewan are large enough to supply world needs for the next 8,000 years. The push to develop U. S. potash deposits was initiated during Saskatchewan's attempt to nationalize its potash industry. The Saskatchewan government has not nationalized all its potash producers, but the attempt may have been seen by US companies as an attempt to regulate the market.

Outside of test wells drilled in the US, Saskatchewan potash development has dominated the region and there are a number of unresolved factors which have kept American potash development from starting. The companies have laid the groundwork for their proposed operations and are presumably waiting for the resolution of these deciding factors. Canada will likely continue to control potash resource development in the foreseeable future.

If and when potash development does occur, it may have a significant impact on the county. Potash development in the area would have an impact on communities in northwest Sheridan County as well as Plentywood, mainly for housing and community services. Both companies have stated that they expect the local communities to supply housing and services if development occurs.

Having a growth policy and county-wide land use regulations in place will give the county and local communities an advantage in ensuring orderly growth if new residential and commercial developments should occur.

## Sand, Gravel and Other Minerals

As a result of its glacial history, Sheridan County has immense quantities of sand and gravel which can be found throughout the area. Because supplies are abundant, this resource is generally developed for local use only and as with our other mineral deposits, the most accessible, economical and best quality deposits are developed first.

Sand and gravel is used for road surfacing and concrete construction. It is an abundant, primary resource that we largely take for granted. The use of gravel increased with the development of surfaced and paved roads during the 1940's and 1950's. With the oil development, its use has again increased with greater quantities needed to maintain roads and surface oil field working areas. Increased construction activity has added to the demand for sand and gravel for concrete construction purposes. Sand or gravel is sold as a mineral, and it is a primary resource for the county's redi-mix business and for a number of contractors hauling gravel for roads. Currently, there are 23 gravel pits according to DEQ data.

Scoria, or clinker, is a red-colored baked clay or shale mineral found in association with burned coal seams. Deposits as thick as forty feet can be found west of Antelope along the edges of the Big Muddy Valley where it has been exposed by erosion. These deposits were formed by the burning of portions of the Richardson lignite bed which is up to eight feet thick in places. Scoria is used mainly for road surfacing and as a base surface for oil drilling pads.

Other minerals found in Sheridan County which have a more limited potential for development include clay and clay was used by early settlers for plaster and mortar. It is exposed in beds four to sixteen feet thick along the Big Muddy Valley from Plentywood to Redstone. Even though there are nearby deposits of inexpensive lignite fuel, the high costs of transporting the finished clay product would seem to discourage the development of this mineral.

Deposits of sodium sulfate brines are found in the "stink" lakes located in the east central part of the county along the North Dakota border. Sodium sulfate (Glauber's salt) is used mainly in glass manufacturing and chemical processing. There are sufficient quantities to be mined but at present, it is not economically feasible.

## Renewable Energy Resources

With the increasing costs and environmental side effects of developing our energy resources, more attention is being given to renewable energy resources such as solar, wind, and biomass.

The potential exists for agriculture to produce more energy than it uses. Through the combined use of solar heating, wind power and organic fuel production, farms could generate their own energy as well as have a surplus to sell.

Relying less on non-renewable energy sources and more on wind, solar and organic fuels will benefit Sheridan County with reduced energy costs, cleaner air and water, and a more diverse economy.

### Government Tax Incentives and Loan Programs

State law now includes legislation for tax incentives to promote industrial and individual use of renewable energy. Montana Code Annotated 15-6-157 and 15-6-224, for example, provide property tax incentives for properties using, generating, or transmitting renewable energy.

There are also statutes for microbusiness loans capped at $100,000 for establishments that generate renewable energy. Low interest revolving loans for installing renewable energy facilities area also available. More information can be found at: http://deq.mt.gov/Energy/renewable/TaxIncentRenew.mcpx. In addition, there are several federal programs designed to provide tax relief for those who choose to install and use renewable energy. More information on federal assistance can be found at the Tax Incentives Assistance Program website: http://www.energytaxincentives.org/.

### Solar

The use of solar energy cannot replace all our present sources of energy, but its radiant energy is ideal for low temperature energy requirements such as space heating and hot water, which are large home energy users in our area. The use of burner fuel, gas or coal-generated electricity requires very high temperatures to produce the low temperatures needed for space heating and hot water. Through the proper design of new buildings and with the installation of solar collectors, the energy used for home heating requirements in our area could be cut by two-thirds.

By converting to solar energy our national dependence on foreign oil would be reduced, and petroleum fuels could be used for more essential tasks such as transportation, farming, and the production of fertilizers, plastics and other synthetic materials. Since sunlight is free for the taking, there is no corporate incentive to push for the development of solar technology unless it can be tied into existing distribution systems. The increased use of solar energy, as well as other alternative energy sources, will depend on individual initiative and effort.

The simplest way to use solar energy for home heating is by allowing it to enter the house through south-facing windows and

to hold the heat as long as possible during the winter season. Increased insulation and the reduction of north, west, and east-facing window areas help to reduce heat loss during cold weather.

Perhaps the greatest obstacle to developing and using solar energy is our continued reliance on traditional building design and construction. The standard housing in general use today originated from an era when energy conservation was not an important issue, and energy and construction materials were inexpensive. Solar buildings represent a departure from traditional building design and require different construction considerations such as increased insulation, heat storage, and consideration of sun angles and other site factors. Building contractors and construction materials are geared to the production of standard frame buildings, and prospective home owners are skeptical or unsure of new designs which break away from traditional architecture. These factors add to the difficulty of converting to the use of solar energy.

The use of solar energy will become more important and Sheridan County residents should be made aware of the potentials and value of solar energy use and should be encouraged to develop this renewable resource. Zoning and building codes must be compatible with increased use of solar energy and should be amended to encourage the use of solar energy and modified building designs.

**Wind Power**

During the 1930's and 1940's and before rural electrification, wind energy was an important resource in Sheridan County. Wind chargers were used on farms to run lights and small electric motors, and wind mills pumped water. Rural electrification replaced this use of wind energy and was welcomed as a much more reliable source of energy. Today we are completely reliant on electrical energy and our living would be much more tedious and dull without it. The increasing demands and costs for electrical energy have renewed interest in wind power to supplement existing sources of electrical energy, which in Sheridan County, is obtained increasingly from coal-fired generating plants.

Because of its variability, and the high cost of electrical storage, wind energy is not practical as a single continuous energy source. However, it could serve as a valuable supplement to existing electrical energy supplies. Use of wind-generated electricity could reduce the demands and costs for local energy consumption, and if the generating capacity is adequate, could produce electricity for sale.

The local development of wind energy should be encouraged as a means of achieving local energy self-sufficiency. Electric utilities should be encouraged to allow excess electrical production to be fed into existing transmission lines and discount electrical rates for consumers who, from time to time, generate excess electricity.

**Biomass**

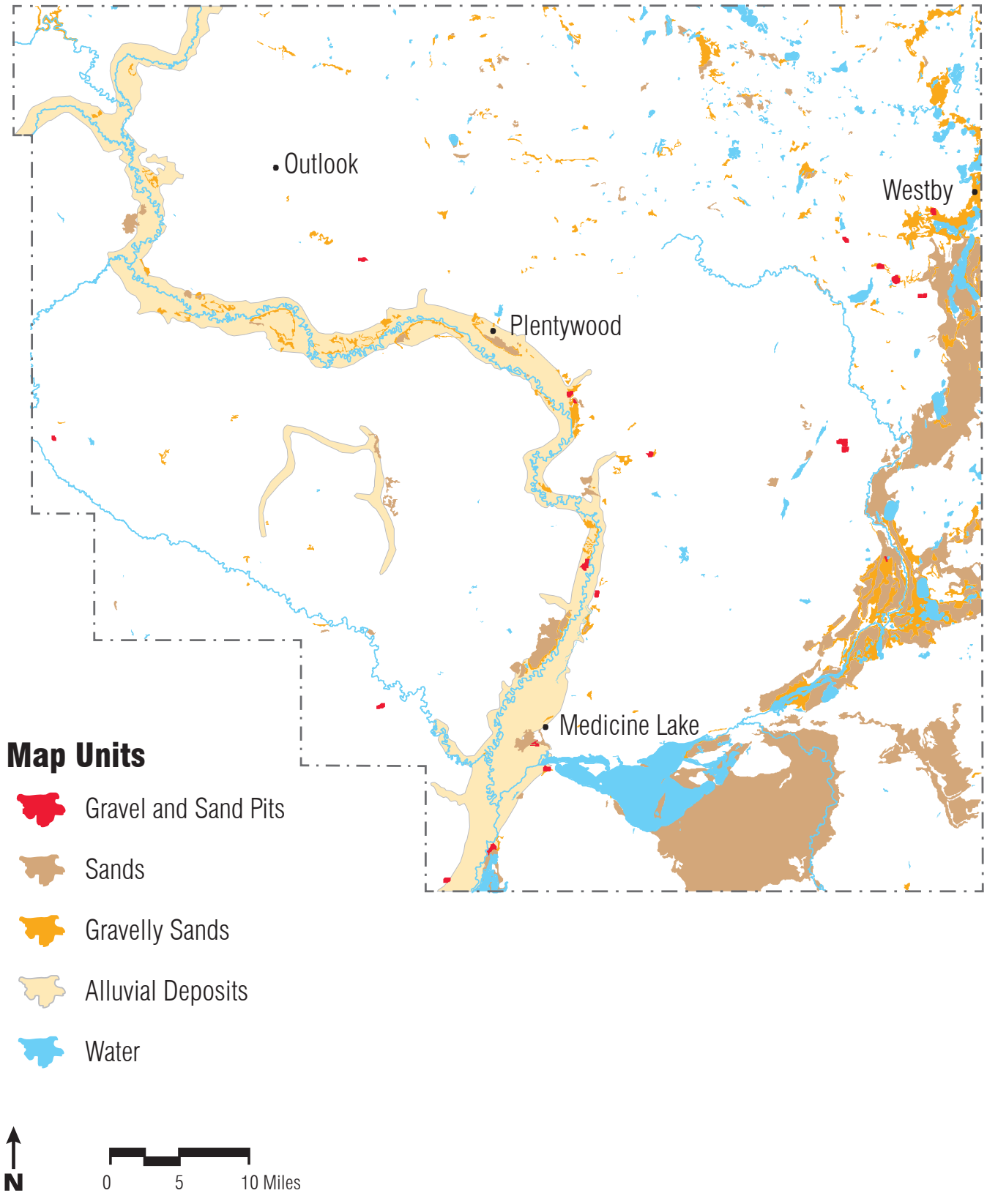
Biomass is a general term used to define the conversion of organic materials into fuels, such as grain alcohols and methane gas from organic wastes. The surplus of wheat, in conjunction with the energy crisis, has suddenly focused a great deal of attention of the production of alcohol fuels made from grain. Wheat and corn provide the highest rates of alcohol produced per ton, and other grains and agricultural wastes have been considered for alcohol production.

Since Sheridan County is one of the state's leading grain producers, we have a very good potential for the development of alcohol fuel production. Lance Crombie, in his book, Making Alcohol Fuel, describes the first step needed to develop alcohol fuels: "Because farms are nothing more or less than large solar energy collectors which convert sun energy into biomass, farmers need to start thinking of themselves as the operators of energy plantations rather than merely the producers of food. As a people we have been conditioned to think of petroleum as vehicle fuel and exclude everything else. When we are a tune to the fact that we can grow our fuel, we can keep going forever without depending on anyone else outside our borders". The use of wheat for making alcohol fuel would solve our grain surplus problems, increase our energy self-sufficiency and create the opportunity for local processing of agricultural products.

The production of grain alcohols is in the early stages of development and whether or not it is successful depends on a number of factors including a continued surplus of world grain supplies. In any event, the development of grain alcohol production would help to insure an equitable return for farming investments.

The production of methane in useful quantities in Sheridan County would generally be limited to processing wastes from municipal sewage, feedlots and other confinement feeding operations. Methane has properties similar to natural gas and it could serve as a renewable substitute for this limited natural resource by providing energy for heating, cooking and refrigeration.

*Gravel and Sand Resources, Sheridan County*



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# APPENDIX A: SURVEY INSTRUMENT

SHERIDAN COUNTY GROWTH POLICY QUESTIONAIRE

## I. Demographics:

1. Which town do you live in or closest to? (Please check one)

❑ Plentywood ❑ Westby ❑ Medicine Lake ❑ Antelope ❑ Reserve
❑ Homestead ❑ Outlook ❑ Raymond ❑ Redstone ❑ Dagmar

2. Which best describes where you live? (Please check one)

❑ In or next to town ❑ Out of town

3. How long have you lived in Sheridan County? _____

## II. Local Services and Public Facilities

How adequate are the following public facilities and services in Sheridan County. Please rank the following based on 1 (Not Adequate) to 5 (Very Adequate). (Circle One)

| | Not at all Adequate | | OK | | Very Adequate |
|---|---|---|---|---|---|
| Hospital | 1 | 2 | 3 | 4 | 5 |
| Hospital/Medical Clinic | 1 | 2 | 3 | 4 | 5 |
| Fire Departments | 1 | 2 | 3 | 4 | 5 |
| Ambulance/Emergency Medical Services | 1 | 2 | 3 | 4 | 5 |
| Medical Clinic | 1 | 2 | 3 | 4 | 5 |
| Law Enforcement | 1 | 2 | 3 | 4 | 5 |
| Library | 1 | 2 | 3 | 4 | 5 |
| Senior Center and Services | 1 | 2 | 3 | 4 | 5 |
| Public Meeting Areas | 1 | 2 | 3 | 4 | 5 |
| Water | 1 | 2 | 3 | 4 | 5 |
| Sewer | 1 | 2 | 3 | 4 | 5 |
| Solid waste (Garbage) | 1 | 2 | 3 | 4 | 5 |
| TV | 1 | 2 | 3 | 4 | 5 |
| Recreation Area/Swimming Pool | 1 | 2 | 3 | 4 | 5 |

## III. Economic Condition/ Development:

Please indicate how important the following items are for guiding planning efforts in Sheridan County.

| The Scale: | Not at All Important | | | | Extremely Important |
|---|---|---|---|---|---|
| 1. Private property rights | 1 | 2 | 3 | 4 | 5 |
| 2. Water rights | 1 | 2 | 3 | 4 | 5 |
| 3. Support of local/small businesses | 1 | 2 | 3 | 4 | 5 |
| 4. Containment of noxious weeds | 1 | 2 | 3 | 4 | 5 |
| 5. Oil development | 1 | 2 | 3 | 4 | 5 |
| 6. Value-added agricultural products | 1 | 2 | 3 | 4 | 5 |
| 7. Economic development | 1 | 2 | 3 | 4 | 5 |
| 8. Development of natural resources | 1 | 2 | 3 | 4 | 5 |
| 9. Tourism | 1 | 2 | 3 | 4 | 5 |
| 10. Housing | 1 | 2 | 3 | 4 | 5 |
| 11. Work force development | 1 | 2 | 3 | 4 | 5 |

Please indicate how desirable the following types of employment opportunities are in Sheridan County.

| The Scale: | Not Desirable | | | | Extremely Desirable |
|---|---|---|---|---|---|
| Agriculture | 1 | 2 | 3 | 4 | 5 |
| Heavy Industry | 1 | 2 | 3 | 4 | 5 |
| Light Manufacturing | 1 | 2 | 3 | 4 | 5 |
| Construction | 1 | 2 | 3 | 4 | 5 |
| Retail Trade | 1 | 2 | 3 | 4 | 5 |
| Tourism | 1 | 2 | 3 | 4 | 5 |
| Technical | 1 | 2 | 3 | 4 | 5 |

## IV. Land Use / Natural Resources

**Opinions about Issues Facing Sheridan County**

*Instructions read: Some statements about issues facing Sheridan County are listed below. Please indicate the extent to which you agree or disagree with each of the following statements.*

| The scale: | Strongly Disagree | | | | Strongly Agree | Don't Know |
|---|---|---|---|---|---|---|
| Natural resources should be used to fuel local development. | 1 | 2 | 3 | 4 | 5 | X |
| Oil and gas development would be good for local communities. | 1 | 2 | 3 | 4 | 5 | X |
| Loss of agricultural production in Sheridan County is a problem. | 1 | 2 | 3 | 4 | 5 | X |
| **Private Property and Private Property Rights** | | | | | | |
| Infringement on private property rights is a problem. | 1 | 2 | 3 | 4 | 5 | X |
| Hunting access to private property is important. | 1 | 2 | 3 | 4 | 5 | X |
| **Subdivision** | | | | | | |
| Subdivision of rural areas, including agricultural lands, in Sheridan County is a problem. | 1 | 2 | 3 | 4 | 5 | X |
| People should be able to subdivide where and when they want. | 1 | 2 | 3 | 4 | 5 | X |
| Subdivision should be regulated. | 1 | 2 | 3 | 4 | 5 | X |
| **Planning and Development** | | | | | | |
| Land use planning should determine the amount of development. | 1 | 2 | 3 | 4 | 5 | X |
| Land use planning should determine the location of development. | 1 | 2 | 3 | 4 | 5 | X |
| Population growth should be located in | 1 | 2 | 3 | 4 | 5 | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| New development should pay for itself. | 1 | 2 | 3 | 4 | 5 | X |
| New development should not require increasing taxes. | 1 | 2 | 3 | 4 | 5 | X |
| Infrastructure (roads, water, etc.) in Sheridan County needs to be improved. | 1 | 2 | 3 | 4 | 5 | X |
| Sheridan County's services (police, fire) need to be improved. | 1 | 2 | 3 | 4 | 5 | X |

## V. Viewpoints

What type of housing is needed?

- ❑ Single family dwellings
- ❑ Rental units
- ❑ Senior housing
- ❑ Senior housing/Assisted living
- ❑ Mobile homes
- ❑ Man Camps
- ❑ RV Parks
- ❑ None

What category of businesses would you like to see develop or expand in the county? (Check all that apply.)

- ❑ Gas or service stations
- ❑ Grocery
- ❑ Motel/hotel
- ❑ Restaurant/cafe
- ❑ Farm/ranch
- ❑ Retail
- ❑ RV Park
- ❑ Factory or Manufacturing
- ❑ Energy development
- ❑ Agricultural retail
- ❑ Other - (please specify)_____

# APPENDIX B: Application for Growth Policy Amendment

**Description of Amendment:**

Elements of Growth Policy to be Amended: _____

_____

_____

Summary of Proposed Amendment: _____

_____

_____

_____

_____

**Provide or attach the following in a narrative format with any maps or drawings as needed. Please demonstrate:**

- How or where an error was made in the Growth Policy that requires an amendment to preserve a property right or to preserve equal protection under the law: _____

_____

_____

- How or where conditions in Sheridan County have changed to a degree that requires an amendment to the Growth Policy:

_____

_____

- How the amendment furthers the visions, goals, or objectives in the Growth Policy: _____

_____

_____

- How the proposed amendment will provide clear, extraordinary community benefit: _____

_____

_____

I hereby certify under penalty of perjury and the laws of the State of Montana that the information submitted herein, on all other submitted forms, documents, plans or any other information submitted as a part of this application, to be true, complete, and accurate to the best of my knowledge. Should any information or representation submitted in connection with this application be untrue, I understand that any approval based thereon may be rescinded and other appropriate action taken. The signing of this application signifies approval for the Sheridan County Planning staff to be present on the property for routine monitoring and inspection during the approval and development process.

_____ _____

Applicant's Signature Date

Form Revised 3/08/13