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**CASPER**  
200 PRONGHORN  
CASPER, WY 82601  
P: 307-266-2524

November 16, 2010

Teton County Planning & Development Department  
Alex Norton  
200 S. Willow Street  
Jackson, Wyoming 83001

Dear Mr. Norton:

Attached please find our response to the Request for Proposals for the Review of the Jackson / Teton County Comprehensive Plan Project. WLC Engineering, Surveying and Planning is excited about the prospect of working with the Town of Jackson and Teton County. We look forward to the opportunity to meet with you to further discuss our ideas and approach.

WLC has a strong background in comprehensive plan development and execution, public participation, and team facilitation and coordination. As a firm with more than 30 years of planning experience, we have worked with many public and private sector clients to plan and create desirable Wyoming communities that meet the needs of those who live in them.

WLC is choosing to partner with Jovi Plans on your project to create an even stronger and more strategic team. Jovi Plans' Principal, Joanne Garnett, is known for her facilitation and consensus building expertise. We are confident WLC, in collaboration with Jovi Plans, can execute a successful public process and understandable document resulting in an approved and adopted Comprehensive Plan.

Enclosed in our proposal, we have provided several example plans WLC has completed in Wyoming as well as information regarding our team's education and experience. Our goal is to provide specialized analysis and recommendations centered on the collective vision and needs of residents and civic leaders.

Our in-state team knows what works in Wyoming communities while also utilizing our nationwide experience to bring new ideas and trends to the table. I will manage the project from our Pinedale office to maximize our team's use of local knowledge.

Thank you for this opportunity to submit our proposal for your consideration.

Sincerely,

Jeff Hosea, LEED AP  
Senior Planner/Project Manager  
jhosea@wlcwyo.com

**CHEYENNE**

**GILLETTE**

**PINEDALE**

**RAWLINS**

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# EXECUTIVE SUMMARY

This Statement of Qualifications (SOQ) is submitted to demonstrate our interest and ability to provide the following services to the Teton County Commission and Town of Jackson Council and Mayor:

- Facilitation
- Communications
- Writing/Editing

Our team consists of WLC Engineering, Surveying and Planning (Pinedale and Casper) and Jovi Plans (Sheridan) and we are proposing on all components of the proposal as a team. Our teams Letters of Reference are cross referenced to cover all three Services requested in this RFQ.

## Project Understanding

The difference between good plans and great plans is the extent and quality of public understanding, inter-governmental collaboration, and consensus built into the plan. The joint elected bodies for Teton County and the Town of Jackson have been diligently working on updating the 1994 Comprehensive Plan since July of 2007 utilizing the standard planning best practices of task forces, public participation, inventory gathering and setting guiding principles. The next phases of the process went through visioning, goal setting as well as future land use plan scenarios and policies. Finally, implementation strategies were



developed and a draft plan was released in April 2009. After eighteen additional months of comments and recommendations, it is now time for a qualified, neutral third party to effectively bring this comprehensive plan to a final approved stage. The WLC-Jovi Plans team is exactly this team bringing 60 years of planning experience, public facilitation, effective public and inter-agency communication, as well as professional writing and editing services to assist the Staff, elected officials, and citizens of Teton County adopt a Final version of the Comprehensive Plan.

## Who We Are

WLC Engineering, Surveying and Planning has teamed with Jovi Plans to bring Teton County and the Town of Jackson all of the skills necessary to accomplish each of the three services requested: Facilitation; Communications; and Writing/Editing. The contract responsibility will rest solely with WLC Engineering, Surveying and Planning with Jovi Plans as a subconsultant to WLC.

The WLC team will include Jeff Hosea, LEED AP, Senior Designer and Planner from the Pinedale office and Mayana Anderson, AICP, Senior Planner from the Casper office. Jovi Plans principal and founder, Joanne Garnett, FAICP, will join the team and lead the Facilitation portion of the contract and assist in the other two aspects of producing the Final Comprehensive Plan.

These three individuals have a wide array of experience from all over the country and have worked together for the past 3 years on numerous projects across Wyoming. Additional WLC support staff will be used as necessary to assist with note taking, preliminary edits and meeting facilitation.

We believe one team is best suited to complete your project successfully. Facilitation, communication, and writing/editing go hand-in-hand and each rely on a successful completion of the other to be effective. Additionally, by selecting WLC for all three components, you'll save time and money by avoiding catching each separate team up on the various phases and you'll receive a more cohesive, implementable Plan.

# EXECUTIVE SUMMARY

## Educational Background of Team

### **Jeff Hosea, LEED AP**

B.S. in Regional Development and Planning; Thematic Minor in Architecture, University of Arizona in Tucson

### **Mayana Anderson, AICP**

M.A. in Urban and Regional Planning with a GIS specialization, University of Florida

### **Joanne Garnett, FAICP**

M.U.R.P. in Urban and Regional Planning, University of Oregon

Additional information on team member's education and experience can be found on their personal resumes beginning on Page 11.



## **Demonstrated Expertise in Facilitation, Communications, and Writing/Editing**

Familiarity with Teton County, the current plan, and its three year history is critical to the success of implementing a Final Comprehensive Plan. Our team members are very familiar with the County, the Town of Jackson, and their current planning efforts, while still being that neutral, third party able to objectively facilitate and communicate without bias. Our team members are also experienced in organizing and managing large meetings, developing participatory sessions and employing a variety of formats to enlist public input. No matter how good the ideas are, our philosophy is that individuals, organizations, local governments, elected officials, and businesses will need to take ownership and responsibility for implementation. An effective Comprehensive Plan is the combination of all of these actors stepping up to the table to do their part to coordinate and implement change. The expertise of our team will provide technical assistance to the joint elected bodies to formulate these ideas into a clear, understandable Comprehensive Plan that will be well accepted and "owned" by public and private sector leaders and citizens.

### **Facilitation:**

The facilitation portion of the professional services will be led by Joanne Garnett, FAICP with support from Jeff Hosea and Mayana Anderson and additional support staff as necessary. In our team's wide and varied experiences with Comprehensive Plans and meeting facilitation, it has been proven that effective meeting facilitation starts with a concise review of the goals and the agenda which helps all participants stay focused and productive. Our primary goal for all meetings will be to ensure the accomplishment of expected and desired results from each meeting. Gaining support for the Plan from all participants will become much easier when those persons are committed to "owning" the outcome.

Jovi Plans was formed in 2009 with a specialization in assisting local governments with their short term and targeted planning needs. Currently, Joanne Garnett

# EXECUTIVE SUMMARY

provides guidance and advice to local governments in ongoing planning activities including comprehensive plan development and public outreach support for the City of Casper, Wyoming, and North Platte, Nebraska. She has reviewed and analyzed land use regulations for the following cities, towns, and counties in Wyoming: Gillette, Greybull, Buffalo, Evansville, Carbon County, Sublette County, and Natrona County. She was interim planning director for Carbon County and is a former planning director for Sublette County.



## Facilitation Experience (Partial List):

- City of Buffalo Comprehensive Plan
- Carbon County Land Use Plan
- Town of Greybull Community Plan
- Evansville Community Plan
- Sublette County Planning and Zoning meetings
- Casper Mountain Land Use Plan
- Rock Springs Master Plan
- Glenrock Safe Routes to School Plan
- Natrona County Emergency Management Plan
- Campbell County Emergency Management Plan
- Pinedale Downtown Revitalization
- Loveland, CO Downtown Development Team
- Loveland & Fort Collins, CO P&Z meetings

## Communications:

The communication services and dissemination of information to the public will be led by Jeff Hosea with support from Mayana Anderson and Joanne Garnett. Since joining WLC, Jeff has assisted in the development, execution, and analysis of the public participation process on several projects including the Pinedale Downtown Revitalization and the Rock Springs Master Plan. Located in the WLC Pinedale office, Jeff has local knowledge of the Jackson and Teton County area.

The WLC team is experienced at matching levels of engagement with the best techniques for ensuring effective community participation. For example, for public participation during the Rock Springs Master Plan, our team created a “topic-based” session for the Kickoff Meeting allowing the public to come brainstorm ideas on topics that were important to them while also receiving accurate and timely information about the project. By creating a meeting the public was interested in attending, our team was able to attract close to 100 people. The meeting also allowed our team to secure valuable feedback as well as create additional buy-in from the community because they were addressing their hot buttons.



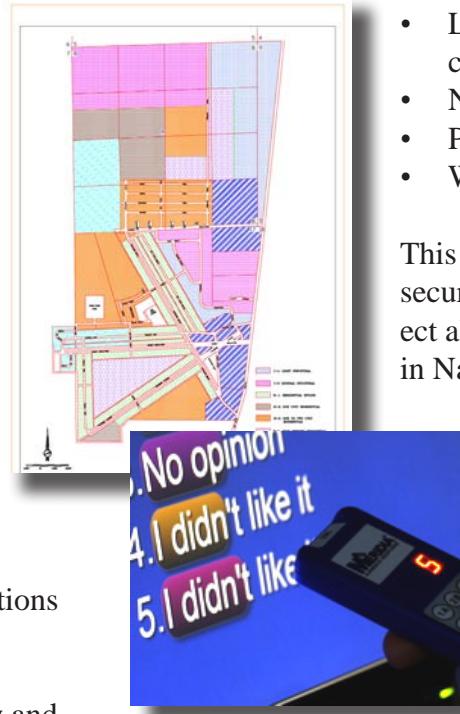
Facebook

# EXECUTIVE SUMMARY

Dissemination of information to the public is equally important to the success of the Comprehensive Plan. Developing a strategy that can encourage collaboration with the public and the Staff is critical at this point. The formation of permanent partnerships among stakeholders means both deciding together and then acting together. This means having a shared vision of what the public, the Staff, and elected officials want, and the means to carry it out. WLC and Jovi Plans have used the following techniques to disseminate information to the public:

- Interactive project websites
- Workshops and Meetings
- Online surveys
- Print surveys
- Hosted events
- Social networking
- Blogs
- Newsletters
- E-Newsletters
- E-Blasts
- Advertising
- Public and Media Relations
- Potlucks
- Direct Mailings
- Leveraging community and religious groups
- Mapping and graphics
- Walking and bike tours

A number of methods can be employed to yield the participation and collaboration that this plan calls for and may range from an informal event to inform citizens about the plan to very formal consensus-building exercises focusing on specific issues. These consensus-building exercises require the type of experienced mediators that make up the WLC-Jovi Plans team, will help people reach solutions they can support and allows for different viewpoints to be expressed.



Our team is experienced in creating a mix of communications dissemination strategies to effectively provide project information, benefits to individuals and the community, how to become involved, and many other relevant and important pieces of information. For example, for the Natrona County Emergency Management Plan, our team utilized a mix of the following techniques to announce the project, meetings, and draft reviews:

- Advertising
- Leveraging community groups including emergency management divisions and response teams
- Newsletters
- Public and Media Relations
- Workshops and Meetings

This blend of communications strategies enabled us to secure feedback from more than 50 people on the project along with all branches of emergency management in Natrona County.

## Writing/Editing:

The writing and editing professional services will be led by Mayana Anderson with assistance from the rest of the team. WLC has always prided itself on the ability to keep documents easily understandable by the document's users without losing any of the regulatory or technical aspects of the document. In our opinion this is vital for public buy-in. Our team also believes that efficient wording, eliminating excess "noise" and an appropriate writing style will help to express the information clearly for the public while providing a document that Staff can use as the building block of other documents in Teton County and the Town of Jackson.

Experience in writing includes:

- City of Buffalo Comprehensive Plan
- Lincoln County Affordable Housing Study
- Carbon County Land Use Plan
- Natrona County Emergency Management Plan
- Glenrock Safe Routes to School Plan
- Bar Nunn Zoning Code
- BloomField Development Standards Editing -Pinedale, WY

# EXECUTIVE SUMMARY

## Project Experience:

As established in the above sections, WLC is experienced with facilitation, communications, and writing/editing. The core component that ties all of these pieces together is project management. Each of our team members is skilled and experienced with project management. We understand the importance of moving a project forward and minimizing the administrative needs of your staff. We have provided project management on all of the examples given. Below is a list of project management skills our team possesses:

- Responsive
- Cooperative
- Friendly
- Flexible
- Diligent
- Passionate
- Knowledgeable
- Persistent



# Town of Jackson and Teton County

## PRINCIPAL-IN-CHARGE

**S**hawn Gustafson, P.E. and Vice President of WLC, joined WLC in 1997 and will serve as the principal-in-charge for this project. He will ensure the project runs smoothly and oversee the project manager. Shawn will provide any engineering services and cost estimates for the project. Shawn can also recommend phased strategy to implement components of the needs assessment.



## PLANNING TEAM

**J**eff Hosea, LEED AP, will serve as Project Manager. He joined WLC in 2008 and he is experienced at developing innovative, creative, and implementable plans and concepts. He is also experienced at creating and utilizing engaging public participation tools and working with governing bodies and the public to negotiate the wants of the majority. Jeff will be your main point of contact and work skillfully to guide our team. He is located in WLC's Pinedale office and makes regular trips to Jackson to enjoy many of its recreational opportunities.



**M**ayana Anderson, AICP, joined WLC in 2008 and will serve as a Senior Planner. Her background and education in land use, community planning, and feasibility studies will be an asset to the project. Mayana has extensive experience in long range planning as well as local municipal planning. She is experienced with an array of public participation tools and what works best in different types of meetings with different groups of people.



**J**oanne Garnett, FAICP, formed Jovi Plans in 2009 after working for WLC. She will serve as a Senior Planner on this project. Throughout her 30 year career, Joanne has worked on dozens of comprehensive and community development plans. She has facilitated meetings, public participation processes, and the adoption of during many of these plans. Joanne's main focus on this project will be the facilitation portion as she is highly skilled at interacting and guiding elected officials and the public.



# Jeff Hosea, LEED AP - Pinedale



## Position

Senior Designer & Planner

## Education

B.S. in Regional Development and Planning; Thematic Minor in Architecture, University of Arizona in Tucson, 1992

Continued Education Seminars including:

- Northern Colorado Real Estate Trends
- Pervious Pavement and Concrete Drainage Systems
- Green Building and Development
- American Planning Association (APA) Seminars

## Certifications

- Leadership in Environmental and Energy Design (LEED) Accredited Professional (AP)

## Professional Associations

- U.S. Green Building Council- Wyoming
- Downtown Loveland Revitalization Team
- 4th Street Design Steering Committee
- APA
- Congress for New Urbanism
- International Dark Sky Association

## Expertise

- Urban designs, master plans, and conceptual designs for neighborhoods, commercial projects, and open spaces
- Presentations and meeting facilitation for neighborhood groups, planning commissions, planning and zoning boards, city councils, boards of trustees, and county commissioners
- Skilled in using AutoCAD for all phases of land planning, landscape architecture, and photometric design
- Coordination and preparation of preliminary

and final development plans and project review for compliance with city and county development codes

- Project management and business/client development
- Digital terrain modeling

## Experience Summary

Mr. Hosea joined WLC Engineering, Surveying and Planning in 2008 as a planner. He is a land planning professional with proven personal drive and creativity in fast-paced, detail-oriented team environments. He has more than 11 years of land planning and survey experience in environmentally sensitive areas. He also has project development experience with an extensive background in AutoCAD as well as surveying and civil engineering. His areas of expertise include transforming community and client visions into urban designs, master plans, and conceptual designs for neighborhoods, commercial projects, and open spaces. Wherever possible, Mr. Hosea relies on progressive designs focusing on sustainable and smart growth opportunities to create more livable communities and preserve the natural environment.

## Selected Project Experience

### 3rd Street - Loveland, Colorado - 2008

The 3rd Street project was a conceptual mixed-use project. It included retail, office, and residential buildings surrounding a 240-car parking garage that is fully enclosed within a ½ city block. Intentions were to show a catalyst project with primary employment and the benefits of public/private partnerships in the revitalization of the downtown area.

### Lakeview Master Plan - Loveland, Colorado - 2006

The Lakeview Master Plan project was a 160-acre, mixed-use Master Plan. It included seven different housing types, commercial space, a recreation center, and public entities. The plan was designed to maximize LEED Neighborhood Design criteria with a heavy emphasis on alternative energy and pedestrian connectivity.

# Mayana Anderson, AICP - Casper



Florida, 1999

## Position

Senior Planner

## Education

M.A. in Urban and Regional Planning with a GIS specialization, University of Florida, 2003

B.S. in Soil and Water Science, University of

eight years of experience in urban and regional planning. She has worked with private developers, governmental agencies, and local municipalities, state, and federal review boards. She has used GIS mapping for emergency management planning, land use planning, open space management, environmental planning, and transportation analysis. Her experience includes being responsible for managing employees, clients, budgets, and project flow. She has been the principal author and grant monitor for a variety of projects involving emergency management and environmental planning.

## Selected Project Experience

### Town of Glenrock, Wyoming Safe Routes to Schools Master Travel Plan - 2009

The Town of Glenrock hired WLC to complete a Safe Routes to School Master Travel Plan. The project entailed reviewing the current paths children are accessing on their way to school; GIS analysis of those pathways to find the impediments hindering more children from walking or biking to school; and creating a final document including cost estimations for engineering, education, encouragement, and evaluation of future projects within the community. The plan was approved by the Town Council and enables the staff to apply for funding from the Wyoming Department of Transportation to construct the improvements identified in the plan.

### Brytan Mixed Use Traditional Neighborhood Development (TND) - Gainesville, Florida - Ongoing

The Brytan development continues to be an ongoing mixed-use development. The project is currently one of 50 pilot projects in the United States that is in the process of becoming certified as a LEED Neighborhood Development. Brytan is determined to establish itself with a measurable “green” certification on the homes and commercial areas within the development and neighborhood as a whole. Ms. Anderson’s duties and responsibilities included writing open space management plans for the recreational areas, establishing educational parks, permitting of endangered species mitigation, and GIS/CAD analysis. Ms. Anderson completed this project while with her previous firm.

## Certifications

- American Institute of Certified Planners (AICP)

## Professional Associations

- American Planning Association (APA)
- AICP
- Western Central Chapter - APA
- Wyoming Planning Association

## Expertise

- Land use and zoning changes
- Planned development design and analysis
- Subdivision and site plan design, layout, and project management
- Governmental agencies and university development projects
- Pathway development and coordination
- Environmental analysis
- Open space and neighborhood park development
- Leadership in Environmental and Energy Design (LEED) for neighborhood pilot project
- Acquisition and analysis of GIS data
- GIS database management and mapping coordination

## Experience Summary

Ms. Anderson joined WLC Engineering, Surveying and Planning in 2008. Her background includes experience in physical science, with the past

# Shawn J. Gustafson, P.E. - Casper



## Position

Corporate Vice President,  
Community Development  
Director, Project Manager

## Education

B.S. in Civil Engineering,  
University of Wyoming, 1989

in the field of civil engineering and has been with WLC Engineering, Surveying and Planning for 13 of those years. He started his career at the Wyoming Department of Transportation (WYDOT) in the Casper field office as a project engineer in 1990. Mr. Gustafson has experience with cost analysis, contract administration, coordination with clients and regulatory agencies during all project aspects, various softwares, and proper documentation of all measurements and activities of construction projects. He is also experienced in traffic engineering and analysis; construction engineering; storm water hydrology; retaining wall design; preliminary and construction surveying; planning; design of residential and commercial structures; water wells, tanks and storage; irrigation canals; and land restoration.

## Selected Project Experience

### Platte River Commons: Home of Three Crowns Golf Course - Casper, Wyoming - 2006

Mr. Gustafson was the Project Manager and Principal-in-Charge for this massive design-build project. Platte River Commons was a multi-year, award-winning project involving site remediation and site re-construction and transformation of the BP Amoco Refinery site into a championship golf course, business park, and recreational area. WLC was responsible for surveying, materials testings, and civil engineering of roadways, sewer and water system utility sites, grading, and select remediation systems on two, 280-acre sites. WLC was also the prime contractor for implementing the designs.

### I-25 Access Subdivision - Casper, Wyoming - 2006

WLC provided the design and construction administration services for the platting and annexation of a subdivision formerly in Natrona County. Services included extension of a 16-inch city water main to the site, an 8-inch water main on-site, roadways, grading, Storm Water Pollution Prevention Plan, and individual lot site plans. Mr. Gustafson served as the project manager.

This project was completed on time and under budget.

## Experience Summary

Mr. Gustafson has more  
than 20 years of experience



## JOANNE GARNETT, FAICP

### PROFESSIONAL CERTIFICATIONS & RECOGNITION

Fellow, American Institute of Certified Planners  
President, American Planning Association  
President, American Institute of Certified Planners  
Planner of the Year Award, The Western Planner  
Leadership Wyoming, Class of 2002

### DISTINGUISHING QUALIFICATIONS

Land use and socio-economic analyses and development of alternative solutions for comprehensive plans and transportation studies  
Comprehensive plan updates  
Public involvement coordination and facilitation  
Pathway development and coordination for approval  
Zoning and subdivision regulation  
Special studies formulation, including visual resource and recreation analyses

### EDUCATION

M.U.R.P., Urban and Regional Planning, University of Oregon  
B.A., Sociology, Fairleigh Dickinson University

### SUMMARY OF RELEVANT EXPERIENCE

Ms. Garnett has over 30 years of professional planning experience in the public and private sector with experience relating to urban, rural, and regional planning issues, including comprehensive plans, community development and alternatives analysis, housing assessments, land use research and analysis, transportation assessments and strategies, neighborhood planning, resource development issues, recreation studies, zoning and subdivision administration, and growth management strategies, natural gas development and USFS leased developments.

### PROFESSIONAL MEMBERSHIPS

American Planning Association  
American Institute of Certified Planners  
Western Central Chapter-APA  
Wyoming Planning Association  
Montana Association of Planners

### OTHER HONORS AND PROFESSIONAL SERVICE

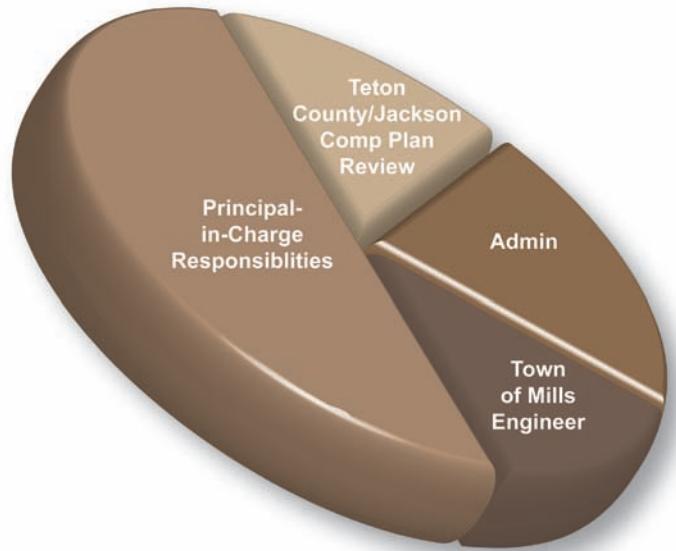
Board of Directors, American Planning Association  
Region V Commissioner, American Institute of Certified Planners  
President, Wyoming Planning Association  
Board of Directors, Wyoming Planning Association  
Board of Directors, Western Planning Resources, Inc.  
Vice-President and President, Western Central Chapter, American Planning Association  
Site Visitors Pool, Planning Accreditation Board  
Wyoming Council for the Humanities, Board of Directors  
Member, Board of Directors, Downtown Sheridan Association

# TEAM AVAILABILITY

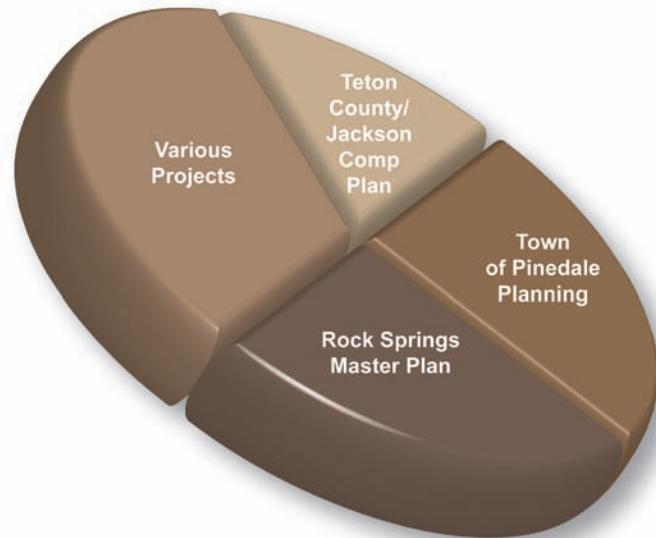
**Jeff Hosea, LEED AP - Project Manager**



**Shawn Gustafson, PE - Principal-in-Charge**



**Mayana Anderson, AICP - Senior Planner**



**Joanne Garnett, FAICP - Senior Planner**



# TEAM EXPERTISE

Skills & Experience	Mayana Anderson, AICP	Jeff Hosea, LEED AP	Shawn Gustafson PE	Joanne Garnett, FAICP
Comprehensive / Long Range Planning	X	X	X	X
Comprehensive Plan Review	X	X	X	X
Meeting Coordination	X	X	X	X
Meeting Facilitation	X	X		X
Public Participation and Comment	X	X	X	X
Public Communications Strategy	X	X	X	X
Meeting Wrap Ups	X	X	X	X
Project Management	X	X	X	X
Comp Plan Writing and Editing	X	X		X
Graphic Capabilities	X	X		
Local Knowledge		X		X



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## PREVIOUS PROJECTS

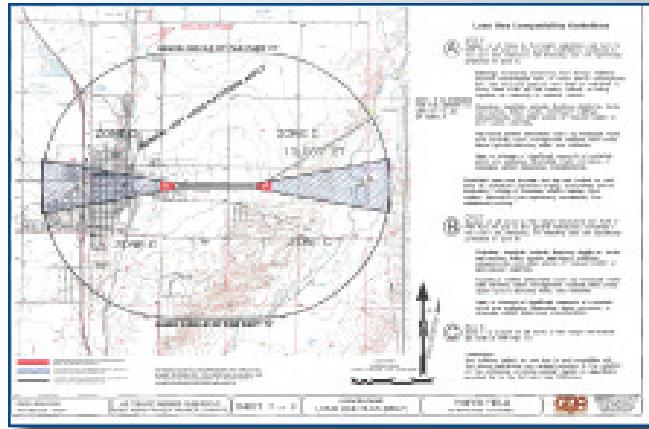
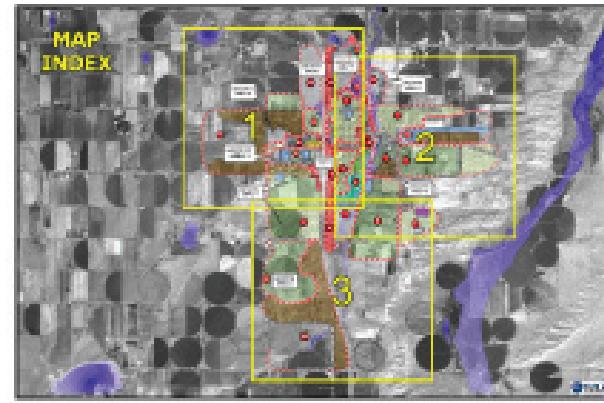
### Wheatland Community Development Plan Wheatland, WY - 2008

In order to review its existing assets and plan for future growth, Wheatland hired WLC, through the use of a Wyoming Business Council grant, to complete a Community Development Plan. WLC completed a community analysis including an existing and future land use analysis, a code review, and a goal-and-policy-setting exercise as well as developed a strategic community development plan. WLC emphasized public participation including gathering thoughts and opinions monthly from an 18-member steering committee. In addition, prior to adoption, a community-wide open house was held to display the results and encourage public comments on the proposed land use plan, goals, policies, and strategies. WLC strongly encouraged community participation to ensure the plan benefited all of the residents. The resulting implementation plan charted the goals, actions, and timeline in which participants needed to accomplish them.

The following elements were included in the list of goals that Wheatland established with assistance from WLC:

- Increase the amount of land available for development
- Update the Town Ordinances
- Develop a capital improvements plan
- Enhance opportunities for a variety of housing to be developed
- Create incentives to retain and expand existing businesses and encourage new businesses to locate in Wheatland

The outcome of the Plan was a well-structured, action-oriented community development plan.



### Planning

- **Community Development Plan**
- **Public Participation**
- **Community Analysis**
- **Code Review**
- **Goal-and-Policy Setting**



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## PREVIOUS PROJECTS

### Ranchester Downtown Development Plan Ranchester, WY -2008

WLC partnered with Business Resource Group (BRG) to create the Town of Ranchester Downtown Development Plan. WLC specialized in converting community trends into a focused plan for the future.

The Ranchester Downtown Development Plan was an acknowledgement by the community of a need to capitalize on a largely undeveloped corridor that is ripe for development. Expanding the availability of goods and services offered in the area was identified as a pressing need and critical in capturing and retaining revenue sources in Ranchester.

WLC acted as a partner with BRG to create a plan to identify opportunities for entrepreneurial endeavors and diversify area employment opportunities. Other revenue and commercial enterprise opportunities were identified including capturing more local and tourists' dollars, and conceptual designs were created to encourage a more appealing and visually attractive downtown. The Plan's critical action steps focused on expanding retail and commercial services in the downtown and in the Spirit Ridge Business Park. A timeline provided the Town with a realistic framework for completion of recommended economic development steps. Utilizing the plan, the Town applied to the Wyoming Business Council for grants to fund and facilitate their economic development efforts.



### Planning

- **Downtown Development Plan**
- **Identification of Entrepreneurial Opportunities**
- **Identification of Diverse Employment Opportunities**
- **Conceptual Designs**
- **Identification of Potential Commercial and Retail Services**



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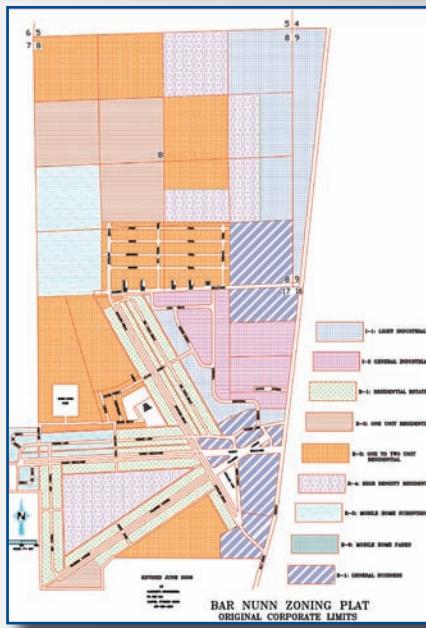
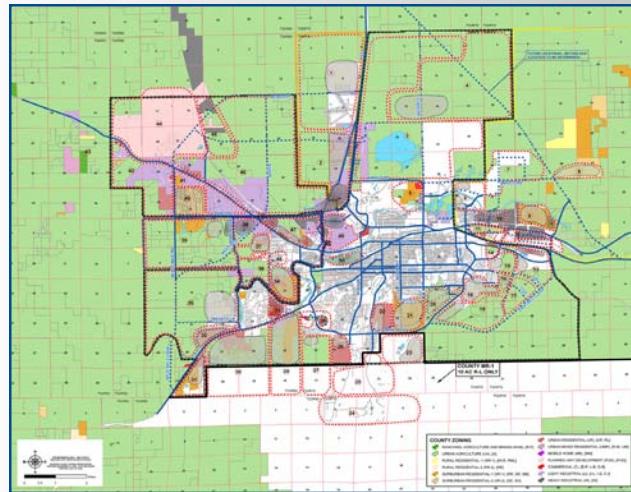
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DEFINED BY EXCELLENCE.**

# PLANNING

## Bar Nunn Community Development Plan Bar Nunn, WY

Bar Nunn hired WLC Engineering, Surveying and Planning through a Wyoming Business Council grant to complete a development plan for the Town. The plan included a community assessment, land use analysis, code review, goal-and-policy setting exercise, and development of a strategic community development plan. A steering committee met monthly over the course of a year to develop the plan. Prior to adoption, a community-wide open house was held for the display and comment on the proposed land use plan, goals, policies, and strategies.

This project was completed in 2009.



### Key Project Features

- **Community Development Plan**
- **Community Assessment**
- **Land Use Analysis**
- **Code Review**
- **Goal-and-Policy Setting**
- **Public Participation**



The logo for WLC (Wichita Leadership Council) features the letters 'WLC' in a bold, sans-serif font. The 'W' and 'L' are rendered in a dark grey color, while the 'C' is in a dark blue color. The letters are outlined in white, and the top portion of the 'W' and 'L' is also blue, matching the 'C'.

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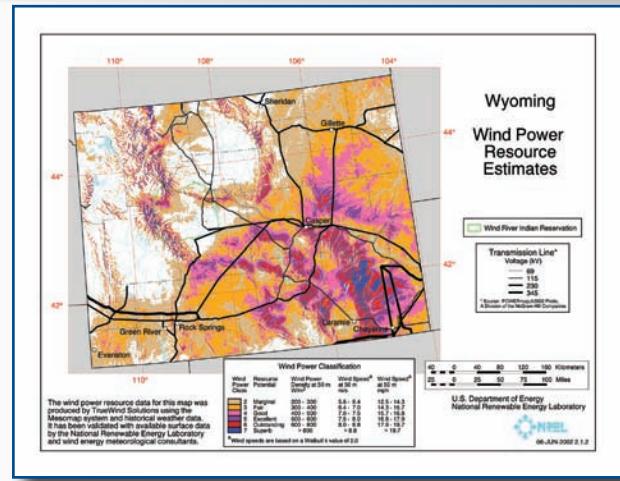
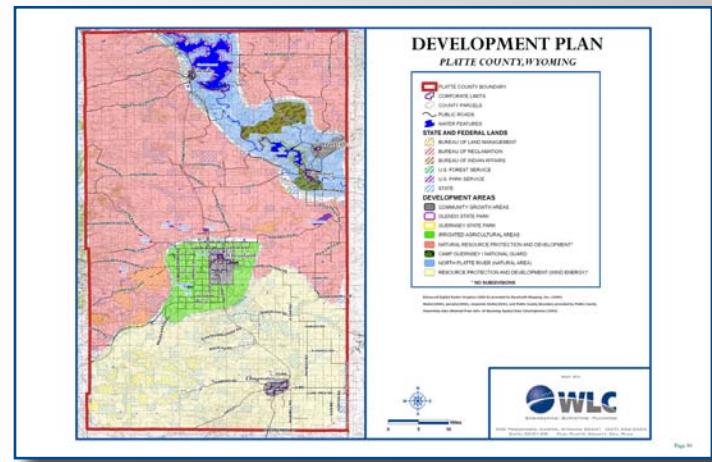
# PLANNING

# Platte County Development Plan

## Platte County, WY

Concurrently with the Town of Wheatland Community Development Plan, WLC Engineering, Surveying and Planning worked with a steering committee of over 20 citizens, staff, and elected officials from Platte County to complete a land use plan for the County. Elected officials included representatives from each municipality and Camp Guernsey. The plan included a county assessment, land use analysis, code review, goal-and-policy setting exercise, and development of a strategic development plan for the towns of Glendo and Hartville. Chugwater, Wheatland, Camp Guernsey, and the state parks land use and management plans were also incorporated into the plan to achieve a comprehensive, county-wide planning effort. The project was funded by a grant from the Wyoming Business Council.

This project was completed in 2008.



## Key Project Features

- Development Plan
- Public Participation
- County Assessment
- Land Use Analysis
- Code Review
- Goal-and-Policy Setting
- Strategic Development Plan



**WLC**

ENGINEERING • SURVEYING • PLANNING  
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**DEDICATED TO CLIENTS.  
DEFINED BY EXCELLENCE.**

# PLANNING

## **City of Buffalo Comprehensive Plan Buffalo, WY**

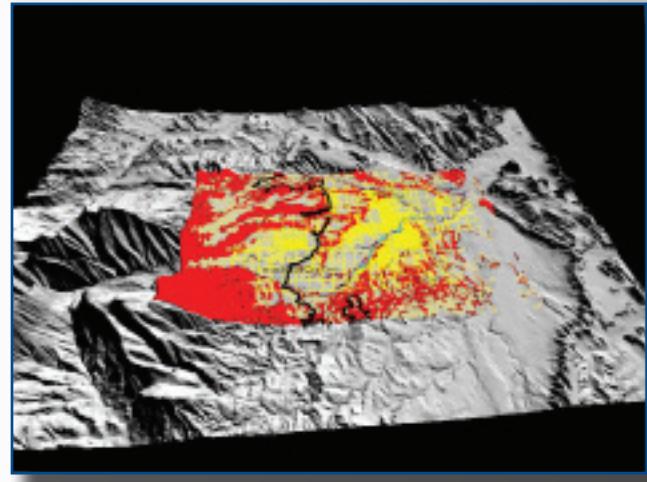
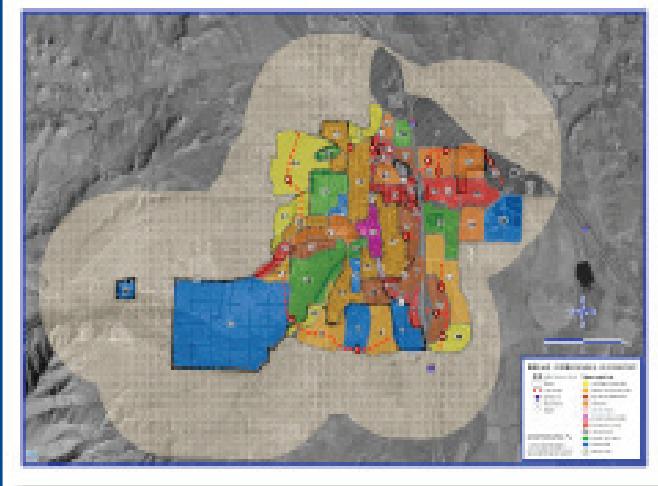
WLC and Ken Markert, of MMI Planning, teamed to develop an updated Comprehensive Plan for the City of Buffalo. The Plan was adopted unanimously by the City Council with strong community support.

The Plan includes demographic information, future forecasts for population and housing, assessment of future land use needs, growth area delineation, a mission statement, and goals, policies, and strategies to implement the plan. WLC's team worked with a steering committee comprised of representatives of the City Council, Planning and Zoning Commission, Chamber of Commerce, federal agencies, businesses, and citizens. Two public open houses were conducted to encourage and obtain community feedback and buy-in, and a Web site provided instant access to the plan sections for citizen review and comment.

A statistically valid citizen survey provided feedback about area planning issues and solicited information regarding potential solutions. Disposable cameras were distributed to about 40 local residents of all ages with the request that they photograph features of Buffalo that they liked and disliked. The photos were then displayed at the first open house to illustrate what was locally perceived about the City.

Feedback WLC received from the client confirms the plan was very well received, and the plan is in the process of being implemented. The document has provided Buffalo's appointed planning board and local elected officials with a valuable tool for land use deliberations, and the Plan is being used to set the direction of future growth for the City.

The project was completed in 1999.



### **Key Project Features**

- Comprehensive Plan**
- Future Forecasts and Assessments**
- Mission Statement Development**
- Goal, Policy, and Strategy Recommendations**
- Steering Committee Participation**
- Public Participation**



The logo for WLCC, featuring the letters 'WLCC' in a stylized font. The 'W' and 'L' are in a dark blue color, while the 'C' is in a light gray color. The 'C' has a white swoosh underneath it.

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[www.wlcwyd.com](http://www.wlcwyd.com)

# DEDICATED TO CLIENTS. DEFINED BY EXCELLENCE.

# PLANNING

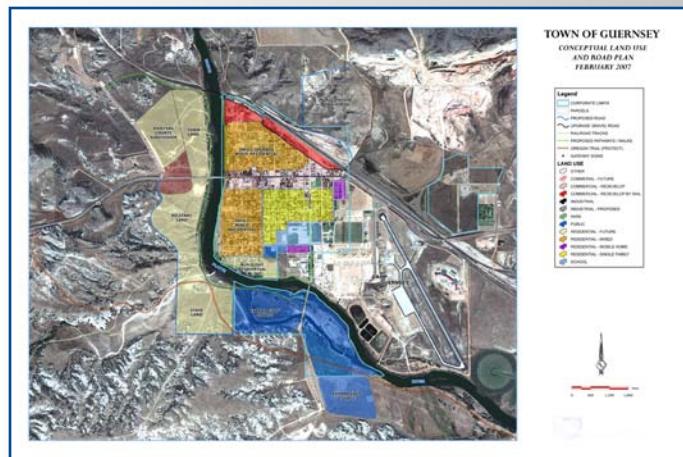
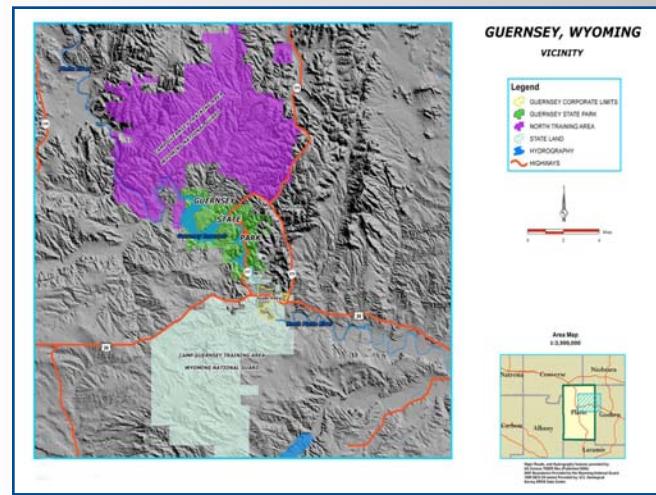
# Guernsey Community Development Plan

## Guernsey, WY

In late 2007, WLC completed a Community Development Plan for the Town of Guernsey, Wyoming. The Town of Guernsey is heavily impacted by activities at the State of Wyoming Guernsey National Guard Camp. Camp Guernsey is and continues to expand rapidly in the last few years and future growth is anticipated. The DOD has designated the Camp as Heavy Maneuver Training Center, one of 12 in the nation. Staff has increased by 116 over the last three years and man-day usage at the Camp doubled over the same period. The Camp land has doubled in size over this same period and now totals 66,000 acres.

Part of WLC's Community Development Plan was coordination with National Guard officials and town officials on identifying projects of joint interest. Thirteen potential projects were identified ranging from additional housing, interconnection of the Guard's and the Town's water systems to bring additional business to Guernsey. WLC's plan recommended that the Town of Guernsey hire a Community Development Coordinator to facilitate these projects.

A Community Coordinator was hired and is being paid for by the Town, Wyoming National Guard, and a large local employer. Based upon WLC's plan the Town and Camp Guernsey are jointly working on several projects including examining the feasibility of interconnecting the water systems and providing additional housing, a new swimming pool, and park improvements.



## Key Project Features

- **Community Development Plan**
- **Coordination with Wyoming National Guard**
- **Infrastructure and Housing Reviews**

# PAST WORK SAMPLE

Past work samples are included on the CD attached to this RFQ and include the Carbon County Land Use Plan and the Ranchester Downtown Development Plan. The following is an excerpt from the Ranchester Downtown Development Plan but the full document is included on the CD with this proposal:

## SECTION 9.3: SUMMARY

*The Town of Ranchester is well positioned for expansion of its retail and commercial services in the Downtown district and in the newly introduced Spirit Ridge Business Park. Residents of the Town desire additional products and services available locally, there is a stable core of anchor services and existing business currently in place, the income and population base of the market study area indicate both are more than sufficient to support expanded services, the land-to-building ratio in the Downtown district indicates development opportunity areas, and the Town is supportive of growth and expansion, especially those businesses/services referred to in the Resident Consumer Survey, Chapter III, Section 3.2.*

*In addition to the population and income demographic*

*of the residents in the market study area, a high volume of tourists and travelers pass through the Downtown district daily. May through October the increase in tourists and travelers is significant. This supplemental consumer base is an asset to the Downtown district, as many of the travelers are going through Ranchester twice, once going into the Big Horns and again on their return from the Big Horns. The objective is to create an enticing and appealing Downtown district that will motive travelers to stop and shop in Ranchester.*

*A important consideration; many of the tourists and visitors who travel through Ranchester are business owners themselves, and may be ready or looking for a place to relocate an existing business or start a new business.*

*It appears all of the elements are in place to support expanded retail, commercial and industrial development. The next step is implementation of the Development Plan with an organized, disciplined and focused approach, partnering with the residents, Downtown district businesses, land and building owners, and the Town in a mutual effort.*

## Critical Action Steps from Ranchester Downtown Development Plan

Critical Action Steps	1.CM-01	2.CM-02	3.CM-03	4.CM-04	5.CM-05	6.CM-06	7.CM-07	8.CM-08	9.CM-09	10.CM-10	11.CM-11	12.CM-12
Ranchester Town Council Adopts Downtown Development Plan												
Town communicates Plan implementation with Stakeholders (Downtown District Business, Building and Land Owners and Residents)												
Appoint Economic Development Steering Committee												
Identify Economic Development Coordinator												
Project Status Press Release												
Prepare and Submit Grant Application for Site Acquisition and Development of Spirit Ridge Business Park												
Identification of Development Opportunity Areas (Downtown Multiuse Building Site & Spirit Ridge Business Park)												
Initiate Conversation with Landowners to Acquire Site for Proposed Multiuse Building												
Phase I Environmental Site Assessment												
Provide Land Acquisition & Option Estimates for Development												
Prepare and Submit Grant Application for Multiuse Building Site Acquisition and Development												
Develop Business Recruiting Materials & Initiate Targeted Business Recruitment for the Downtown District												
Meet Individually with Downtown Land Owners to Identify Development Opportunities												
Expand Targeted Business Recruitment to Include Grocery Store, Hardware Store & Medical Clinic												
Stakeholder Project Status Review Meeting												
Review, Review & Adopt New Zoning Ordinances, Signage, Architectural Landscape Guidelines for the Downtown District												
Celebrate the Opening of All New Downtown Businesses												
Finalize Multiuse Building Site Acquisition, upon Successful Grant Award												
Building Demolition & Site Prep Contract - Bid & Select												
Architectural Design Contract - Bid & Select												
Construction of Multiuse Building Contract - Bid & Select												
Multiuse Building Construction												
Negotiate Lease Terms with Multi-use Building Tenants												
Grand Opening of Ranchester Visitors Center												

# LETTERS OF REFERENCE



## THE TOWN OF EVANNSVILLE

November 15, 2010

RE: WLC Engineering, Surveying & Planning Reference

To Whom It May Concern:

I'm writing on behalf of our current working relationship with WLC Engineering, Surveying & Planning. WLC has been our Town Planner, Grantswriter, and Engineer, since 2003. WLC provides engineering, planning, grantswriting, and surveying services, including design, execution, and administrative support, in this role.

WLC is accountable and provides quality, timely services. The staff is knowledgeable, approachable, and easy to work with.

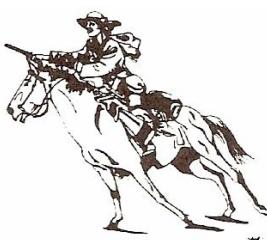
As Mayor of Evansville I've had the opportunity to thoroughly understand WLC's work ethics and processes and would highly recommend WLC to you. Please contact me for additional information.

Sincerely,

Philip G. Hinds, Mayor

P.O. DRAWER 158, EVANNSVILLE, WYOMING 82636-0158  
(307) 234-6530 • FAX: (307) 266-5109 • EMAIL: [town\\_evansville@bresnan.net](mailto:town_evansville@bresnan.net)

# LETTERS OF REFERENCE



**TOWN OF PINEDALE**  
**PLANNING & ZONING DEPARTMENT**  
**210 West Pine Street, P.O. Box 709**  
**Pinedale, WY 82941**  
**307.367.4136 tel**  
**307.367.2578 fax**

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Teton County Planning and Development  
Attn: Alex Norton  
P.O. Box 1727  
Jackson, WY 83001  
RE: WLC Engineering Surveying and Planning

November 12, 2010

Dear Mr. Norton,

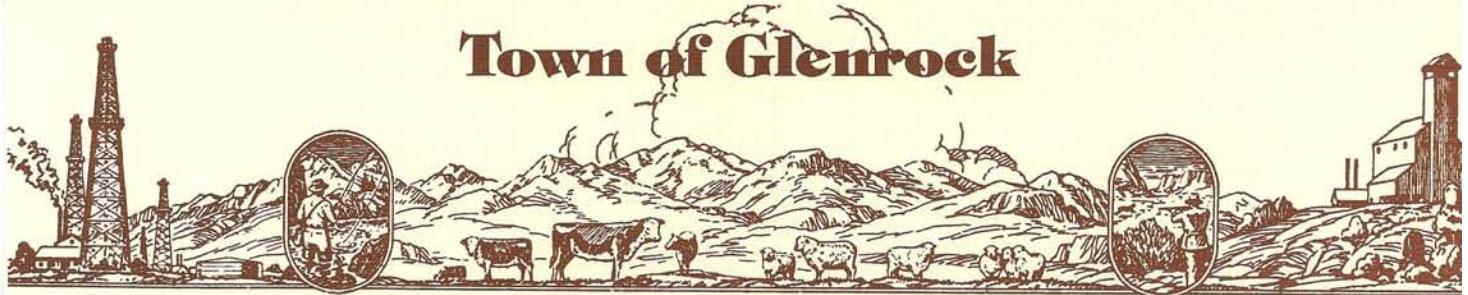
The Town of Pinedale has contracted WLC on a number of Town projects in recent years ranging from engineering and land surveying to planning and grant writing. Projects have included the Town wide infrastructure upgrades, Boyd Skinner Park Master Plan, boundary surveys in the parks, and most recently a Downtown Town Master Plan. In addition, WLC represents many clients that come before the Planning & Zoning Dept. for development applications. Many of these projects include a public relations component either through a public planning process, advocating for their client in the public hearing process, or acting as a third party between the Town, subcontractors and the public, which WLC has successfully implements. Throughout these projects WLC has demonstrated their expertise and professionalism when dealing with Town Staff and the general public. WLC has often completed Town projects before the deadline and under budget and provided quality deliverables. WLC Staff has repeatedly been flexible and responsive to Town needs while maintaining a positive attitude under tight budgets and public controversy.

As individuals and a business WLC is very active in community organizations and events. Besides being technically knowledgeable, their community commitment has established a level of trust and credibility with the public that is extremely useful in facilitating public meetings on projects and diplomatically dealing with controversial project components. Individually the community organizations they participate in have given them a diversity of understanding of the values, needs, and interests of this community that allows them to successfully mediate between parties. For these reasons it is a pleasure to write a letter on behalf of WLC. I hope you will strongly consider WLC as a viable candidate for your project. Please feel free to contact me if you have further questions.

Sincerely,

Kate Grimes  
Planning & Zoning Administrator  
zoningtop@wyoming.com

# LETTERS OF REFERENCE



Phone (307) 436-9294 • Fax (307) 436-5729 • Glenrock, Converse County, Wyoming 82637 • P.O. Box 417

November 15, 2010

**RE: WLC Engineering, Surveying & Planning Reference**

To Whom It May Concern,

I'm writing on behalf of our current working relationship with WLC Engineering, Surveying & Planning. As a planning consultant, WLC completed the Glenrock Safe Routes to School project and is now assisting us with designing and engineering a downtown archway. WLC has always provided us with top-notch, professional services. The employees provide responsive, knowledgeable, and friendly service.

In closing, as Community Development Director I would not hesitate a second to recommend WLC to you. If you have any questions or would like additional information, please contact me at your convenience.

Sincerely,

Kathy Patceg, Community Development Director

# LETTERS OF REFERENCE

November 13, 2010



Alex Norton  
Teton County Planning & Development Department  
PO Box 1727  
200 S. Willow Street  
Jackson, WY 83001

RE: Reference for Joanne Garnett, FAICP

Dear Alex,

This letter should provide you with pertinent background information as you consider Joanne Garnett for a consulting contract for facilitation, communication, and writing/editing services for Teton County and the Town of Jackson as a partner with WLC Engineering, Surveying and Planning.

I had the pleasure of working with Joanne when I was hired by the City of Buffalo as the Assistant Planner in 2006 during which time Joanne was the project manager for WLC's contract to revise/develop Buffalo's Comprehensive Plan. I worked on many of the "behind the scenes" efforts with Joanne and several of her staff members and then directly with Joanne for the final months of the plan as I transitioned into the role of Planning Director. With my perspective working behind the scenes and later on the front lines as the City's project manager with the Comp Plan I had a unique insight into Joanne's work style, competency, leadership ability, and interaction skills.

During the Comp Plan development, Joanne's most observed strength was her ability to professionally handle and guide our Comp Plan steering committee which was comprised of representatives of the City Council, Planning, Zoning and Adjustment Board, Chamber of Commerce, federal agencies, businesses, and interested citizens. Not only was she organized in her methods with this varied work group, but ability to listen while directing and focusing on what we had identified as goals of the meeting was especially critical. In addition, her ability to speak honestly and get to the root of disagreements while identifying innovative solutions highlighted her unique problem solving skill-set which was also critical during the development of the Comp Plan. Ultimately, she was able to move the Steering Committee forward so we ended up with solid direction and final language for the Plan's goals, policies, and strategies that was well supported by the diverse Steering Committee members and therefore the public.

As far as communication with the public, Joanne and her staff conducted two open houses during the course of the Plan's development with exhibits, maps, and one on one discussion with community members. During the course of the project, they maintained a project website with draft chapters for citizen review and comment. The team prepared and administered a statistically valid citizen survey which provided the steering committee with feedback about local planning issues as well as information that could be used to develop the Plan's strategies for solving those issues. In my opinion this effort was ideally suited for Buffalo citizenry and points to Joanne's ability to use a best-fit solution unique to each community she works in.

The Plan itself consisted of several chapters that presented demographic information; forecasts for population and housing; an assessment of future land use

## **Board of Directors**

Mark Kinner  
Sally Morton  
Julie Carroll  
Matt Johnston  
Bill Mentock  
Susanna Meyer  
Edith Clark-Harper

# LETTERS OF REFERENCE



needs; growth area delineation; mission statement; and goal, policies, and strategies for plan implementation. Joanne authored many of these chapters herself. Plan reviewers thought the plan was well-written, and we made minimal changes which was a huge benefit the City of Buffalo as the client.

If you haven't been able to tell yet, I would highly recommend Joanne for this project and position. She is a natural fit for this Town/County collaborative project and all the issues that may present themselves during the development of a final product. I'd be more than happy to expound on any of my comments above and can be reached at 307-673-4702.



Sincerely,

Colin Betzler  
Executive Director

## **Board of Directors**

Mark Kinner  
Sally Morton  
Julie Carroll  
Matt Johnston  
Bill Mentock  
Susanna Meyer  
Edith Clark-Harper

Phone: 307-673-4702

Cell: 307-752-8138

306 North Main Street 2<sup>nd</sup> Floor

P.O. Box 7185

[www.sheridanclt.org](http://www.sheridanclt.org)

# ADDITIONAL INFORMATION

## **Contractual Responsibility:**

Contractual responsibility will rest solely with WLC. WLC will serve as the point of contact and any tasks for Jovi Planning will be filtered through WLC.

## **Availability Statement:**

WLC has adequate staff and resources to complete this project. Individual availability charts are provided on the team resumes beginning on Page 11. Our proposed schedule for completion is:

Facilitation: January-June, 2011

Communication: January-June, 2011

Writing/Editing: July-December, 2011

## **Insurance:**

Workers Compensation Employer #: 000023939

Professional Liability Insurance Deductible:

\$50,000

Policy Limits:

\$1 Million Occurrence

\$2 Million Aggregate

## **Conflict of Interest:**

Neither WLC or Jovi Planning have any personal, private, or business interest in the outcome of any Comprehensive Plan policy decision. Therefore, our team has no conflicts of interest.

# ORGANIZATIONAL PROFILE

Since 1979, WLC has offered planning services to our clients, making us unique from other engineering firms. Several of our planners are members of the American Institute of Certified Planners (AICP) and one boasts a LEED AP credential. Together, we offer more than 35 years of combined experience in a full range of land use planning services for both the private and public sectors.

The key to our success is understanding the unique challenges faced by large and small communities, developers, landowners, and private citizens in Wyoming and the Rocky Mountain West. We are exceptionally skilled at showing communities how to transform their values into a vision, and establish goals and action plans to make them a reality. We have the added benefit of having a full complement of engineers on staff who in order to provide cost estimates if required by the plans and for successful grant applications.

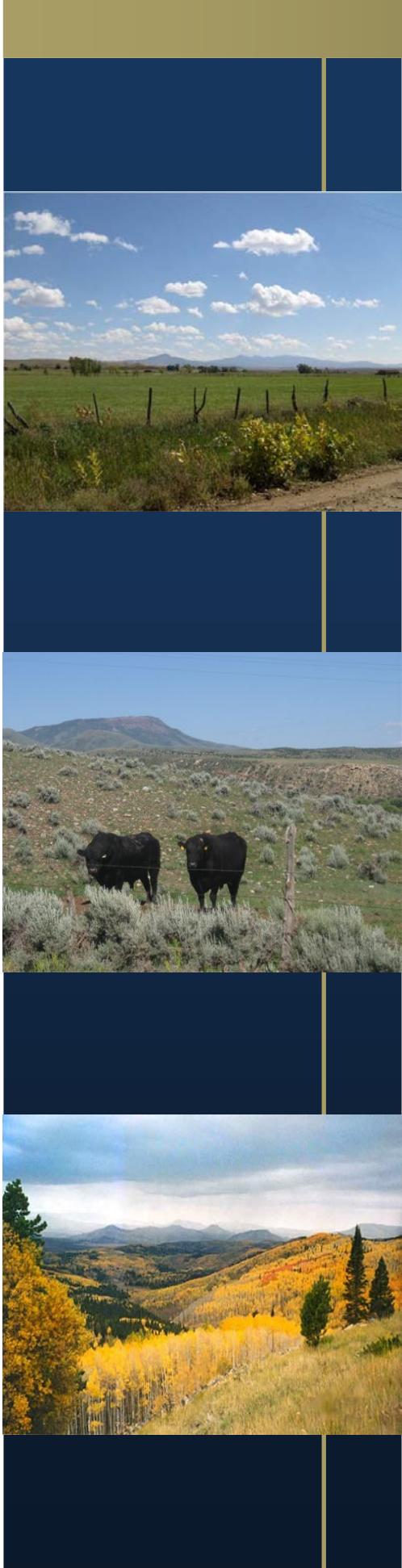
WLC has worked with town, city, and county staffs offering a variety of land use planning services throughout Wyoming. Our services include urban and rural land use planning, policy formulation and updates for zoning and subdivision regulations, subdivision and business park design, planned developments, growth management strategies, feasibility studies, and downtown development, facility reuse, neighborhood, and transportation plans.



Over our 30-year history of offering planning services, we have completed countless plans and projects. Recently, WLC has completed community development and land use plans for Bar Nunn, Wheatland, Guernsey, Evansville, Chugwater, Greybull, and Platte County, and a comprehensive plan for Buffalo. Other projects include an affordable housing study for Lincoln County, a downtown development plan for Ranchester, business park plans for Wheatland, Glenrock and Greybull, a facility reuse feasibility study for Platte County, and a conceptual development plan for the Casper Natrona County International Airport Business Park. Many of these plans and studies were funded through Community Development Block Grants administered by the Wyoming Business Council.

WLC also employs planning technicians and support staff who are ready to provide professional, timely service to your organization. Integrated with our engineers, the planning department is well versed in evaluating public utility systems and growth impacts. Coupled with our GIS and grant writing specialists, the WLC planning team can provide statewide consulting services for a variety of planning and community development projects and to all sizes of government and private sector clients.





# **Carbon County Land Use Plan**

**July 2009**

**Presented to:**

Carbon County Board of County Commissioners  
Carbon County Planning and Zoning Commission  
Citizens of Carbon County, Wyoming

**Prepared by:**

WLC Engineering, Surveying & Planning  
MMI Planning

**In Association with:**

Carbon County Land Use Plan Steering Committee

## Chapter 1: Summary of Contents

---

In early Spring 2008, Carbon County began to undertake the process of developing a new Land Use Plan for the County. The project team consisted of three consultants and a County-appointed steering committee that had input into the Plan's development. Local appointed and elected officials and key staff were provided with project updates throughout the process, and citizens gave crucial feedback to the team through a statistically valid survey of county property owners and town voters, open houses, and access to the Plan's website. The Plan was completed in Summer 2009.



*Photo by: Michael Evans*

While the focus of the Plan centered on the unincorporated areas, its goals, strategies, and direction also have a strong connection with the City of Rawlins and incorporated towns. The Plan defines the preferred pattern of future land use for Carbon County, and upon the implementation of its strategies and action items the County is poised to support growth that is done with an appreciation and understanding of local values. These values have been shaped into seven land use goals which County citizens have stated they want to attain in the coming years:

- 1. Achieve a sustainable balance between energy development, agriculture, and the environment.**
- 2. Protect water supplies of established users.**
- 3. Sustain scenic areas, wildlife habitat, and other important open spaces.**
- 4. Retain ranching and agriculture as the preferred land uses in rural areas.**
- 5. Locate new residential developments and commercial sites in close proximity to communities and developed areas.**
- 6. Ensure that future land development is fiscally responsible and has adequate roads and other infrastructure.**
- 7. Retain diversity of use on public lands and provide for conversion of public lands to other land uses as would benefit the orderly development of the county.**

A wide variety of information and data was collected, synthesized, and analyzed during the development of this Plan. Nearly 100 maps were created during the Plan's preparation, and they were of considerable assistance in determining where future land use development could best occur that would be in line with the identified goals. All of the background material was available to the public and reviewed by the Land Use Plan Steering Committee.

The remaining chapters of the Land Use Plan consist of the following:

*Chapter 2: Population Characteristics, Trends, and Forecasts.* The chapter offers a snapshot into Carbon County's demographics with particular focus on population forecasts and the potential for growth based on energy development.

*Chapter 3: Housing Characteristics and Forecasts.* Background information is presented about the County's housing costs and availability, along with estimates of the current housing stock for the County and the incorporated areas. Housing needs are forecasted to 2025.

*Chapter 4: Infrastructure.* The Chapter discusses the availability of basic infrastructure such as electricity, water, sewer and streets, with particular focus on the municipalities and their ability to accommodate future growth. The status of landfills are also outlined.

*Chapter 5: Agriculture.* A profile of agricultural operations is highlighted in the Chapter, including information about trends in number of farms and ranches, agricultural products, market values, operator characteristics, irrigation, and income.

*Chapter 6: Economic Conditions.* Data about the County's labor force trends and job growth are featured in the Chapter. Information is also available about work establishments, average income and earnings, energy-related economic growth, and local economic development agencies.

*Chapter 7: Future Land Use.* The map series that was created for 19 different themes is presented along with key findings for each theme. The Future Land Use Map is also presented with the documentation of the process that went into the Map's development.

*Chapter 8: Goals, Strategies, and Actions.* The Chapter describes the steps taken to arrive at the Plan's goals. This includes a look at the public input used to develop the Plan. The list of goals, strategies, and action items are presented.

*Chapter 9: Implementation.* Recommended approaches for implementing the Plan are given as part of four themes – communication and participation, revision of County regulations, coordination with local governments, and new incentives and standards. Suggestions for Plan reviews and updates are also given.

*Appendices.* A Summary of Action Implementation Items – Years 1-3 is displayed. The citizen survey and its results are presented.



*Photo by: Carbon County Planning Staff*

## CARBON COUNTY LAND USE PLAN

Land Surface Management  
Carbon County

### LEGEND

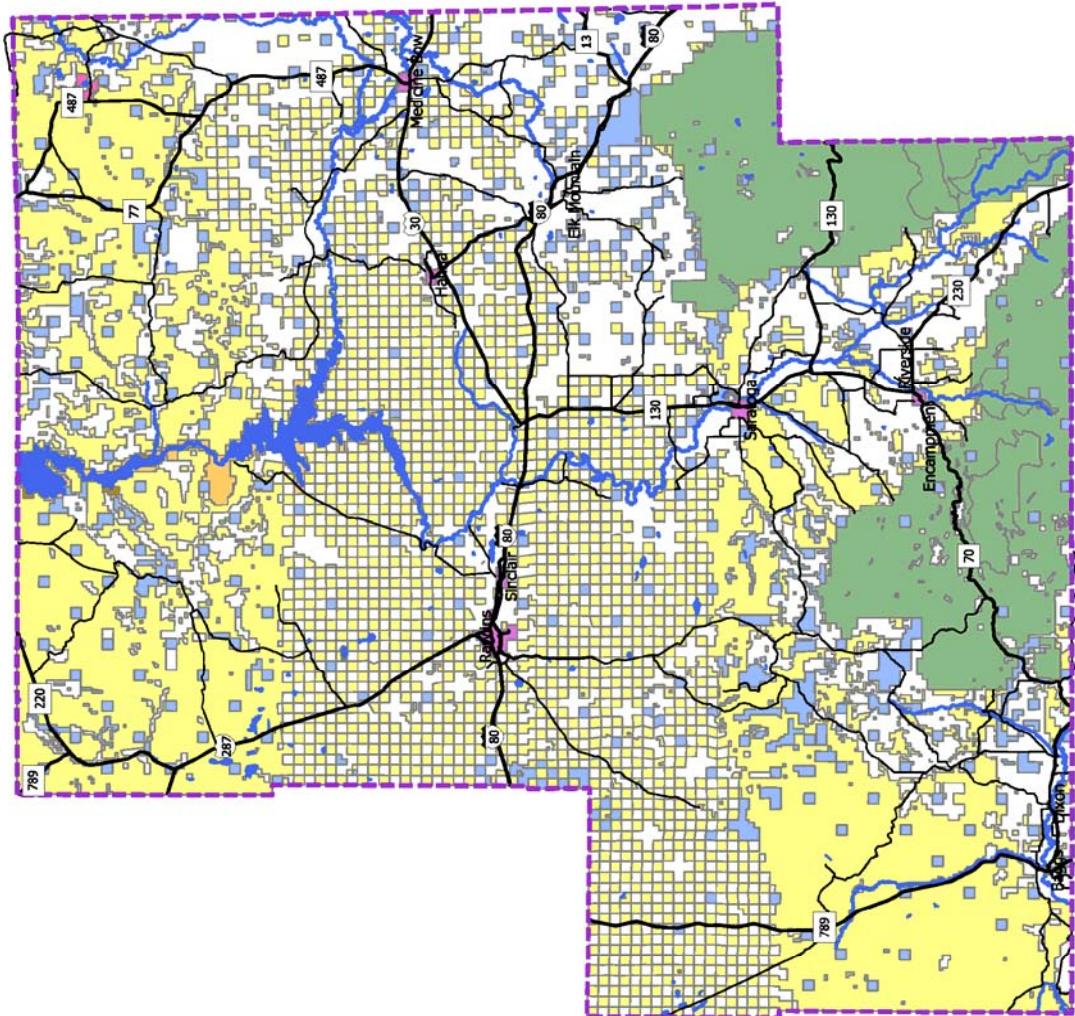
Land Surface Management  
Army Corps of Engineers  
Bureau of Land Management  
State of Wyoming  
U.S. Forest Service  
U.S. Fish & Wildlife Service  
Deeded

Other Map Features  
Municipalities  
Reservoirs and Lakes  
Rivers and Streams  
Major Roads  
Minor Roads  
County Boundary

0 8 mi



[mmiplanning.com](http://mmiplanning.com)



## Chapter 2: Population Characteristics, Trends, and Forecasts

---

### Introduction

Carbon County is the quintessential Wyoming county, with a rich history beginning with nomadic Plains Indians, pioneers that crossed the county by wagon train, and then by the growth of ranching. The county population was further solidified by the area's railroad activity and mining. In fact, the longest running oil refinery in Wyoming is located in the town of Sinclair. The County came into existence in 1868, and over time ten incorporated communities were established.



*Photo by: Carbon County Planning Staff*

This chapter analyzes county population characteristics and trends. Forecasts to the year 2030 are also presented. The primary sources for information include the US Bureau of the Census, State of Wyoming Department of Administration and Information (Economic Analysis Division), the Wyoming Housing Needs Forecast, and recent environmental impact statements that have been prepared for proposed energy-related projects.

### Past Population Statistics

For decades, Carbon County has been an area which is very subject to increases and decreases in countywide population that is the direct result of changes in the local economic base: mining, energy development, and agriculture. In 1920, the county population stood at 9,525. By 2000, the population was 15,639 – not even double the population since 1920. Meanwhile, the counties surrounding Carbon County have all experienced significantly more growth and tended to have increased nearly three-fold between 1920 and 2000.

The population totals from 1950 to 2000 are presented in the table that follows. The fluctuations in population by decade can be directly linked to energy booms the region was going through at the time.

Table 2.1 Carbon County Population and Percent Growth by Decade

Year	Total	Percent Growth
1950	15,742	--
1960	14,937	-5
1970	13,354	-11
1980	21,896	64
1990	16,659	-24
2000	15,639	-6

Source: US Bureau of the Census

An estimate of population for 2007 was prepared by the US Census Bureau, and Carbon County was estimated to have a population of 15,486. The Census Bureau also indicated that the County's population has continued its past trend of increases and decreases on a yearly basis from the year 2000 through 2007. Ultimately Carbon County is shown as having a decrease of 153 people (-1 percent) in that timeframe.

#### Characteristics

The last official Census was conducted in 2000, and those are the statistics that form the base for this section. Because the population size has been basically flat since 2000, it is assumed that the same findings that were evident in 2000 are still relevant in 2008.

Some demographic comparisons between the State of Wyoming and Carbon County are shown in the table below. In general, the county has more males and is older than the state as a whole. There were also more individuals with advanced degrees by percent for the state versus the county.

Table 2.2 Select Population Characteristics, Carbon County and Wyoming, 2000

Subject	Carbon County	State of Wyoming
Percent Male	53.6	50.3
Percent Female	46.4	49.7
Median Age	38.9	36.2
Average Household Size	2.39	2.48
Average Family Size	2.91	3.00
Percent High School Graduate or higher	83.5	87.9
Percent bachelor's degree or higher	17.2	21.9

Source: US Bureau of the Census

Taking a look at the population totals, households, and average household sizes for the incorporated areas of the county, it can be seen that the majority of the towns have smaller average household sizes than the county and the state as a whole. This may signify the presence of fewer families with children, more two person households, and likely more single person households in these towns.

Table 2.3 Population, Households, Average Household Size  
by Incorporated Area, 2000

Town/City	Population	Number of Households	Average Household Size
Baggs	348	147	2.37
Dixon	79	41	1.93
Elk Mountain	192	74	2.59
Encampment	443	209	2.12
Hanna	873	367	2.38
Medicine Bow	274	129	2.12
Rawlins	9,006	3,320	2.45
Riverside	59	28	2.11
Saratoga	1,726	757	2.23
Sinclair	423	168	2.52

Source: US Bureau of the Census

Carbon County very closely mirrors the State of Wyoming in how its population is distributed by age group. Over half of the county population is between the ages of 20 and 59, the prime workforce ages. Another 27 percent of the population is aged 19 or younger, while 16 percent is aged 60 and older.

Table 2.4 Age Distribution, Carbon County and Wyoming, 2000

Area	0-9	10-19	20-34	35-59	60-74	75+	Total
Wyoming	65,067	80,279	93,309	177,779	50,998	26,350	493,782
Percent of total	13	16	19	36	10	5	100
Carbon County	1,852	2,341	2,708	6,131	1,753	854	15,639
Percent of total	12	15	17	39	11	5	100

Source: US Bureau of the Census

The Wyoming Housing Database Partnership final report dated February 28, 2008, included information regarding the changes by age cohort (age groups) between the years 2000 and 2006. The data is based on the 2000 Census and the Census Bureau's intercensal estimate for July 2006. In reviewing the data, it can be seen that the county population is continuing to age: the greatest percent increase occurred among those aged 55 to 64 years. In contrast, all age cohorts from birth to 44 decreased. In fact, the county as a whole was estimated to have decreased by 314 residents from 2000 to 2006.

Table 2.5 Age Distribution, 2000 and 2006, Carbon County

Age	Census 2000	July 2006	Percent Change
Under 14 years	2,957	2,770	-6.32
15-24 years	2,155	1,975	-8.35
25-44 years	4,435	3,836	-13.51
45-54 years	2,577	2,685	4.19
55-64 years	1,595	2,115	32.60
65 and over	1,920	1,944	1.25
Total Population	15,639	15,325	-2.01

Source: Wyoming Housing Database Partnership, February 2008

#### Estimates of Change

According to estimates by the US Census Bureau, Carbon County experienced a natural increase of 383 individuals from April 2000 to July 2007. The natural increase is the number of births minus deaths in a set time period. Net migration, or the total of persons moving into the county versus those moving out, was -467 from April 2000 to July 2007. The combined totals result in a total population change of -153 for that time frame.

Coincidentally, Wyoming driver's license exchange data contained in the Wyoming Housing Database Partnership indicates there has been a net increase of 952 persons over the eight year period of 2000 through 2007. In other words, more licenses were exchanged by people moving to Carbon County than were surrendered by people moving out of the county. It needs to be understood that the net increase of 952 persons is the net increase in driver's licenses and not total newcomers or households. Still, this is normally a strong measure of migration trends. When growth is desired by an area, it is better to be on the positive side of license exchanges rather than the negative.

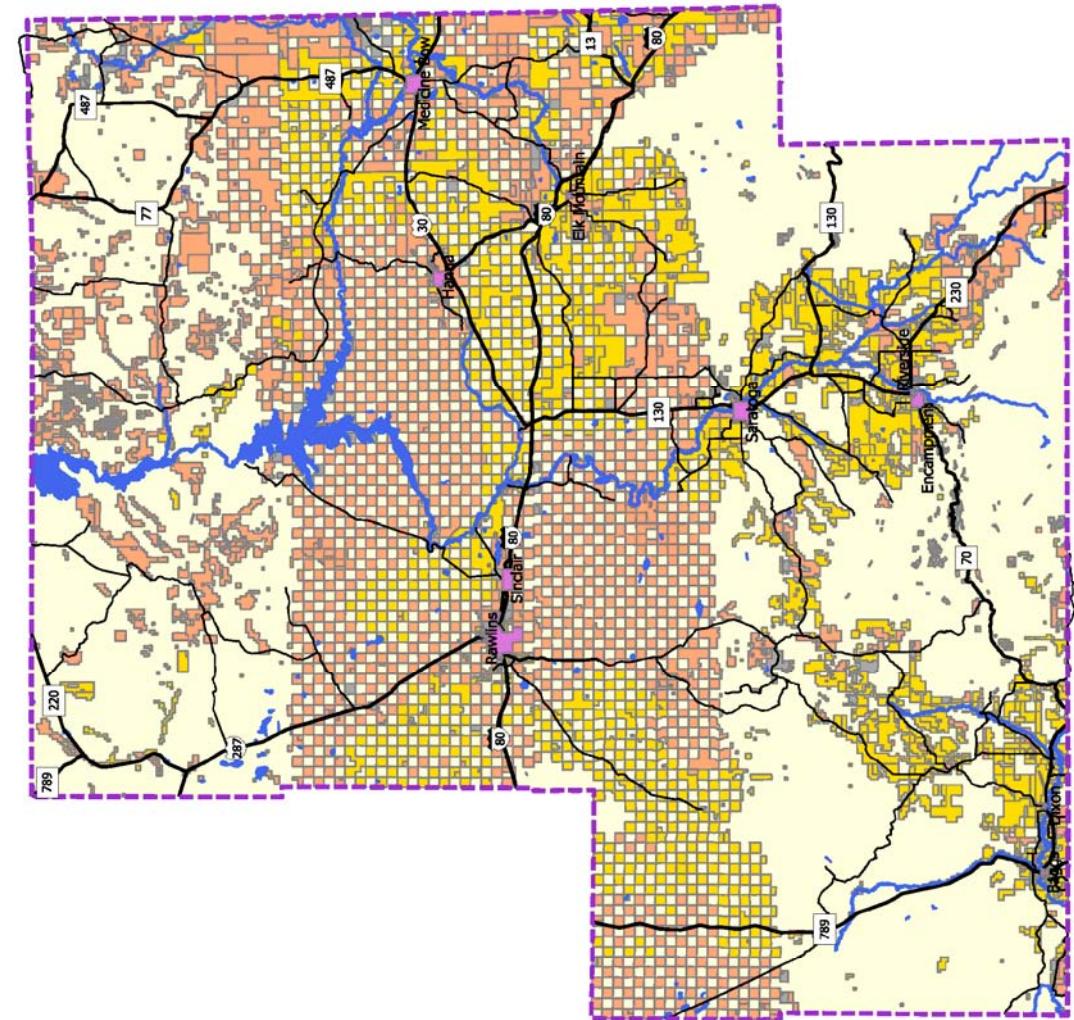


*Photo by: Linda Fleming*

Labor force data is another indicator that there has been an increase in population. In 2000, the labor force stood at 7,744. By 2005 there were 7,649 persons in the labor force, a decrease since 2000. However, that number rose to over 8,000 by

2007. This is another positive sign that the local population has actually been on the increase since 2006 and 2007.

It has been observed that the US Census Bureau tends to produce population estimates that are on the low side and which are typically adjusted upward with each passing year. Population indicators such as the driver's license exchange and labor force data have shown an increase county population, in spite of the Census Bureau's estimates. It is more likely that the county has experienced growth rather than a population loss by the year 2007.



## CARBON COUNTY LAND USE PLAN

*Land Tenure*  
Carbon County

### LEGEND

- Address of Landowner  
(Deeded Land Only)
- Carbon County Address
- Address Outside County
- Address Unknown
- Other Map Features
- Public Land
- Municipalities
- Reservoirs and Lakes
- Rivers and Streams
- Major Roads
- Minor Roads
- County Boundary



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### Potential for Growth Based on Energy Development

A number of significant energy-related projects that will impact Carbon County are in varying stages of the approval process. Three that have the potential for the most long-term impact on the land use of the county are the Atlantic Rim project, Medicine Bow Fuel and Power project, and the Continental Divide-Creston project. BLM filed a Record of Decision for Atlantic Rim in March 2007 for approval of the development of 2,000 wells. The Medicine Bow project has completed its socioeconomic impact analysis, and Continental Divide-Creston's environmental impact analysis is currently underway. A smaller fourth project, Seminoe Road Gas Development, consists of the development of 1,240 wells.

It is very difficult to predict what will actually occur with these projects over time. No one knows the rate at which gas development workers will become permanent residents of the county. The majority of these workers tend to be temporary and relatively nomadic, moving from job site to job site as the situation warrants. The key is to make the best assumptions possible with the information that is known – the number of the permanent workforce – in order to achieve land use planning that best addresses long term needs. At the same time, it is important to address the short term needs for services and housing on behalf of a very sizable temporary, transient population.

#### *Atlantic Rim*

The approved Atlantic Rim project straddles Sweetwater and Carbon counties. According to the project's final Environmental Impact Statement (EIS), 2,000 wells will be developed and the project will have a 40-year life. The bulk of the production-related employment will occur at a relatively high level for 8 to 10 years, and ultimately there will be moderate long-term population growth experienced by Carbon and Sweetwater counties due to this project. At its peak during the fifth year of drilling, there should be 1,488 direct, indirect, and induced employment opportunities. Of that total, 30 percent (453 persons) will be filled by non-local, temporary employees; 52 percent (780 workers) will be employees hired locally; and 17 percent (256) will be in-migrants.

It is assumed that the vast majority of the temporary workers will be single and transitory. The local workers are assumed to already live in southwest Wyoming, while the in-migrants will relocate to this area from other locations. Using the average household rate of 2.39, there could potentially be an in-migration population of 612 as a result of the project. That population would reside in either Sweetwater or Carbon counties.

The EIS predicted that Rawlins will have 362 temporary and 511 longer term workers during the peak year (Year 5) of this project. Baggs and Dixon are predicted to receive 49 temporary and 64 longer term employees during the same peak year. These numbers will decrease as the project moves forward in time, with all temporary employment ceasing and in-migration significantly dropping off by Year 20 of the project schedule.

To summarize:

- Year 5 (potentially the year 2012 or 2013, depending on when full construction begins) will be the peak year for employment and population growth.
- Temporary workers will typically be single and transitory.
- Longer-term workers may include current residents of Carbon County, as well as newcomers from outside the county.
- Longer-term workers will include single workers and workers with families.
- Approximately 575 longer-term workers will live in Rawlins, Baggs, or Dixon during the peak year.
- The number of longer-term workers will quickly decrease by Year 6 and on to the end of the project.

#### *Medicine Bow Fuel and Power*

The Medicine Bow Fuel and Power Socioeconomic Impact Analysis (September 2007) presented the future baseline population projections for several counties, including Carbon County, for the years 2008 and 2011. The estimates were developed by the State of Wyoming Department of Administration and Information. According to the sources, Carbon County was projected to have a 2008 population of 15,560 and a 2011 population of 15,720. Overall this would represent a 0.5 increase in population from 2000 to 2011. These estimates were prepared using past trends and do not include the energy-related projects that are currently being proposed for Carbon County.

Taking a look at this proposed project, the Medicine Bow coal-to-liquids plant anticipates approximately 2,000 temporary workers for the construction of the plant and 307 temporary workers for the construction of the coal mine. A permanent workforce of 200 will be required to operate the plant, with another 250 permanent employees necessary for the coal mine operations. Another 374 permanent jobs are anticipated as an indirect result of the increased plant and mine workforce.

Summarizing these findings from the Impact Analysis:

- 2,307 new construction jobs over a period of three years
- About 230 (10 percent) of the construction jobs would employ local workers
- The remaining 2,000 workers will require housing
- Almost half of the workers (972) are expected to bring their families
- Peak construction should last 11 months
- Approximately 450 permanent jobs will be created for operations, with some workers moving to Carbon County with their families
- About 374 indirect jobs (for example, restaurant employees, new medical staff, or retail positions) will result from the operation of the plant and mine

Ultimately, Carbon County could gain 450 permanent workers associated with the Medicine Bow plant and coal mine, plus families, and possibly more workers to fill the indirect jobs caused by the plant and mine operation. Again, the average household size in the county was 2.39 in 2000, and that average accounts for households consisting of single persons as well as families. Therefore the potential exists that 1,075 individuals may reside in Carbon County as a direct result of this project. In

addition, indirect service workers may move to the county as a result of the Medicine Bow plant and mine.

#### *Continental Divide-Creston*

This project would result in nearly 9,000 wells located in the Wamsutter region and western Carbon County. At the current time an environmental impact statement is being prepared to assess the impacts from the project. The site is part of the huge natural gas development that is either underway or in the process of being approved throughout southwest Wyoming, including the Atlantic Rim project already discussed and the proposed Hiawatha Regional Energy project development area for 4,200 wells in Sweetwater County.

As described in the project's scoping documentation, BP America, Anadarko, Devon Energy and other operators have proposed to drill up to 8,950 natural gas wells in the 1.1 million acre Continental Divide – Creston (CD-C) Project area which is due west of Rawlins and in the vicinity of the Carbon/Sweetwater County line. About 25 percent of the CD-C project area is in Carbon County.

There are 2,500 to 3,000 existing wells within the CD-C project area and the operators anticipate drilling about 600 wells per year over the next 10 to 15 years to develop this area. For comparison, about 300 wells were drilled within the CD-C project area during 2006, so approval of the operator's proposal would essentially double the number of wells drilled on an annual basis and more or less double the 2006 workforce for the CD-C project area. More details about the anticipated workforce and local population impact will be forthcoming when the EIS is completed in late 2008.

#### *Seminoe Road Gas Development Project*

The November 2005 Environmental Impact Statement (EIS) for the Seminoe Road Gas Development project indicated there would be relatively minor socioeconomic impacts due to the development. The project includes 1,240 wells, and the EIS noted that many people already living in the County would have the opportunity for employment with the project. Therefore, they did not anticipate a significant influx of population or employment and instead envisioned using the local population as their employment base.

The proposed construction and drilling activities are scheduled to occur in phases over a 10-year period. Actual gas production would follow and is estimated to last over a 30-year period. The EIS specified there would be 60 workers needed for the construction and drilling phases and up to 50 workers during the operations phase. At its peak activity during years 5 through 9, there would be 110 employees. Indirect employment opportunities would arise in the service, retail, and other non-gas related employment sectors and could result in up to 88 employment opportunities during peak activity years. To sum up:

- 198 total new job opportunities during Years 5-9, the peak activity period of the project
- It was assumed that a majority of the jobs would be filled by local employees currently residing in Carbon County.
- Some of the oil and gas supporting positions would be filled by workers from outside the county.

- The Seminoe Road Project would not significantly increase the county population: The assumed increase would be less than one percent, resulting in a population growth of 142 during the Peak Years 5-9.

#### Forecasts for Future Population

The Wyoming Housing Database Partnership has a yearly Wyoming Housing Needs Forecast prepared for several financial, data, and governmental partners. Developed by Western Economic Services, LLC, the data is used to forecast county, city, and town population and household estimates through the year 2030. While the data does not incorporate information obtained from specific energy-related projects that are in the approval process, the report does account for the potential impact by the energy industry on local areas by adjusting estimates upwards in the applicable industrial categories, such as mining and construction. This makes the forecasts produced for the Database Partnership more reliable than other predictions such as are produced by the US Census Bureau. In addition, three growth scenarios have been developed with different viewpoints represented of what the likely future growth rate will be.

The scenarios are:

*Moderate Growth* – This scenario is based on a prediction by the Department of Administration and Information, Economic Analysis Division (EAD) in December 2006 and includes forecasts to the year 2020. It closely mirrors US Census Bureau forecasts.

*Strong Growth* – Based on the Winter 2007 long-term population and employment forecast released by NPA Data Services Inc., this scenario is more robust than the EAD model. Forecasts are made through the year 2030.

*Very Strong Growth* – Also based on forecasts prepared by NPA Data Services Inc., the scenario presents a more aggressive growth forecast through the year 2030.

The 2000 county population was 15,639. All three scenarios indicate a population upswing by the year 2010, and as was previously discussed there is evidence that the past trend of population decreases is no longer occurring. Table 2.6 presents the forecasts for Carbon County using the moderate, strong, and very strong growth scenarios that are found in the Wyoming Housing Needs Forecast (February 2008).

Table 2.6 Forecasts for Population in Carbon County, 2010 through 2025

Scenario	2010	2015	2020	2025
Moderate	15,730	15,590	15,440	----
Strong	15,763	16,058	16,485	17,066
Very Strong	16,243	17,090	18,123	19,384

Source: Wyoming Housing Needs Forecast,  
Wyoming Housing Database Partnership, February 2008

The moderate scenario shows the county losing population by nearly 2 percent from 2010 to 2020. In comparison, the strong scenario indicates an increase in population by 4.5 percent between 2010 and 2020 while the very strong scenario sets the pace at 11.5 percent growth from 2010 to 2020. The moderate scenario

uses the US Bureau of the Census method for forecasts and is typically a conservative estimate. At the other extreme, the very strong scenario uses assumptions based on a high level of employment, strong economy, and very healthy rate of growth. The reality is much more likely to be somewhere in the middle, more in line with the strong growth scenario.

A fourth population forecast was prepared for the 2006 Wyoming Workforce Child Care Needs Assessment. It presents the most ambitious population growth scenario, in part by beginning at a higher population base in 2005 than was used by the previous three scenarios. The Needs Assessment estimated that Carbon County had a population of 16,496 in 2005. By comparison, the scenarios developed for the Wyoming Housing Needs Forecast estimated that the 2005 populations were as follows:

- Moderate growth scenario – 15,331
- Strong growth scenario – 15,229
- Very strong growth scenario – 15,229

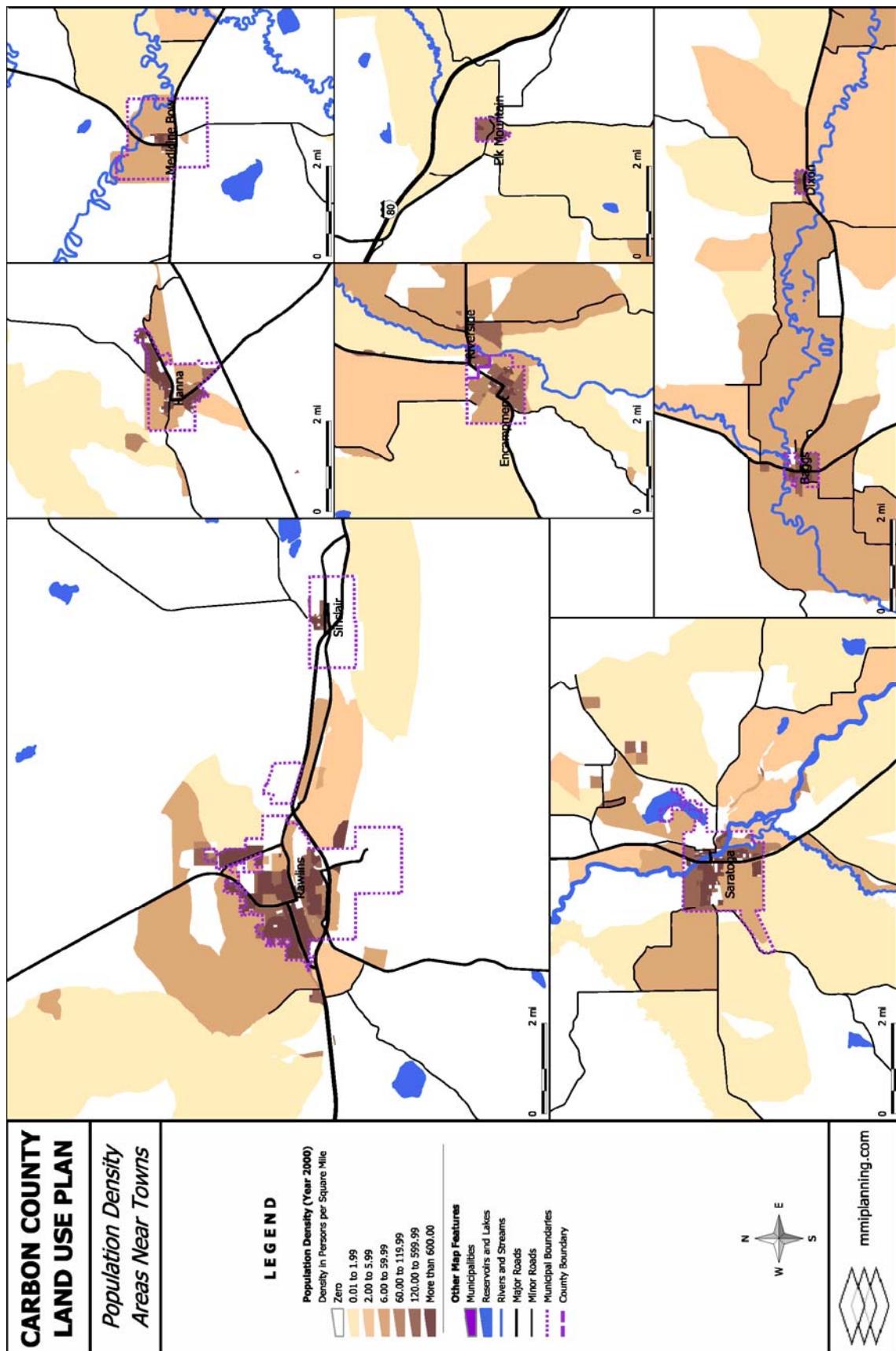
The Needs Assessment forecasts a 2010 population of 18,230 and a 2015 population of 19,442. A comparison of percent change from 2000 to the year 2015 is illustrated in the table that follows.

Table 2.7 Percent Change by Scenario, 2000 to 2015, Carbon County

Scenario	2000 Population	2015 Forecast	Percent Change
Moderate	15,639	15,590	-0.3
Strong	15,639	16,058	+2.7
Very Strong	15,639	17,090	+9.3
Needs Assessment	15,639	19,442	+24.3

Source: US Bureau of the Census, 2000; Wyoming Workforce Child Care Needs Assessment, 2006; Wyoming Housing Needs Forecast, 2008

The forecast produced for the Child Care Needs Assessment is very aggressive and linked with potential employment opportunities in retail and industry. While recognizing that a portion of the jobs associated with energy is likely to be filled by local residents, it appears this scenario relies on more in-migration occurring at a much faster rate than do the other scenarios.



Forecasts are subject to adjustment and fine tuning as circumstances change. Given the current work environment and potential for increased energy development, it is recommended that the strong growth scenario be used as a guide for future land use development needs. This scenario illustrates that growth will occur in a steady pace and seems to best match the predicted workforce needs of recently approved or pending energy projects.



*Photo by: Carbon County Planning Staff*

## Chapter 3: Housing Characteristics and Forecasts

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### Introduction

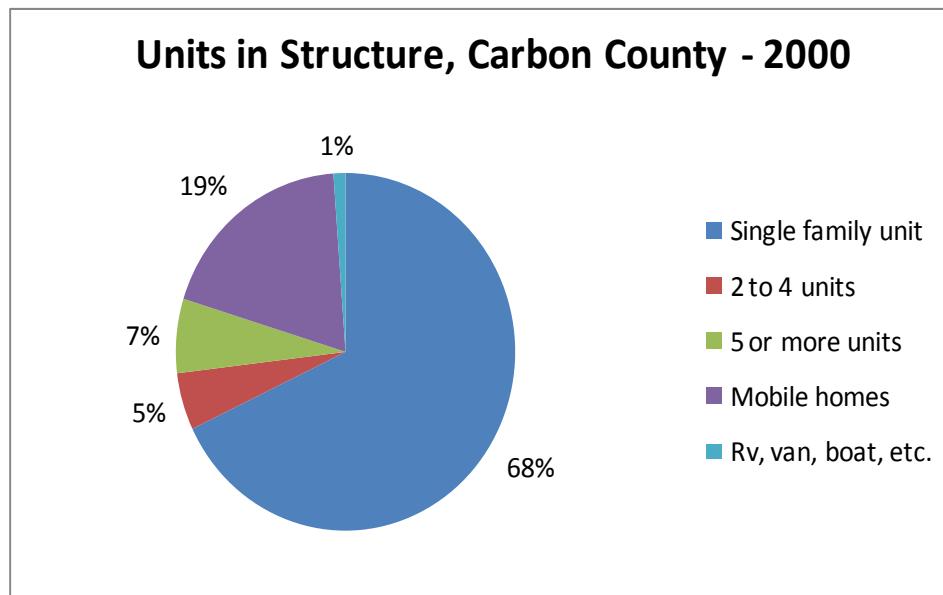
Until recently, Carbon County's population has been holding steady or even decreasing, and as a result the housing market was also flat. However, that turned around by 2006-2007 and indications are that housing will be needed to accommodate population growth related to new employment (both short-term and long-term) generated by energy industries, indirect services, and the state prison.

This chapter takes a look at past housing characteristics and analyzes the potential need for additional housing units based on projected forecasts. The US Census Bureau, State of Wyoming Division of Economic Analysis, Wyoming Housing Database Partnership, and energy-related environmental impact statements are the primary sources of information for the chapter.

### Characteristics from 2000 Census Report

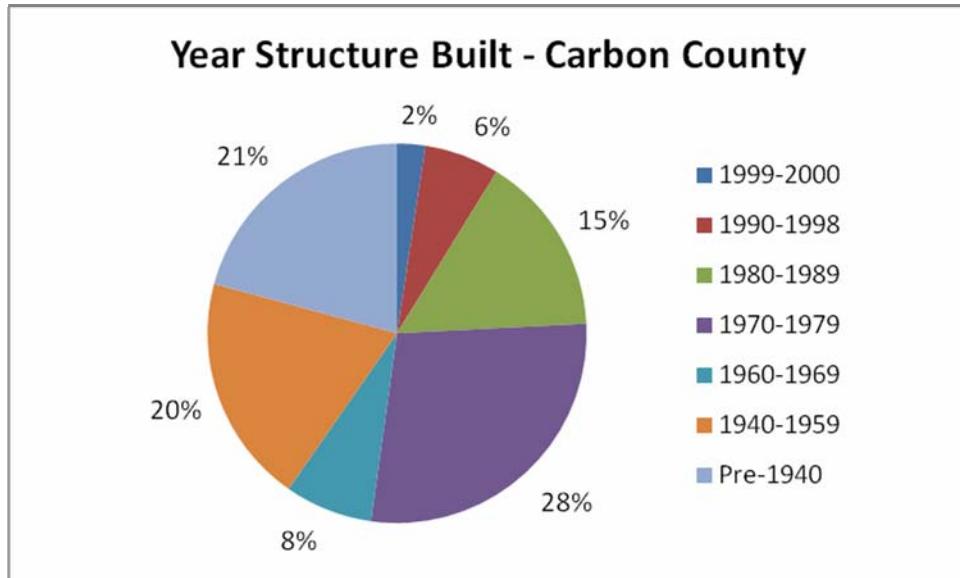
In 2000, the Census Bureau established there were 8,307 total housing units in Carbon County. Of that total, 6,129 (74 percent) were occupied and 2,178 (26 percent) were vacant. The vacancy rate is high in part because of the number of county housing units that are used for seasonal, recreational, or occasional use: 1,050 units, or nearly 13 percent of the total units. By comparison, Wyoming's state average for vacant units that are for seasonal, recreational, or occasional use was 5.5 percent. The higher percent experienced by Carbon County represents the popularity of second homes and seasonal homes in parts of the county, particularly around the south end.

The majority of the county housing units in 2000 were traditional single family units that are built on-site (66 percent). Two percent were single family attached units. Mobile homes comprised 19 percent of the units.



Source: US Bureau of the Census, Census 2000

Looking at the year structures were built, a significant number of units (1,976 units or 24 percent) were constructed between the years 1970 to 1979 during the last energy boom experienced in the county. Another 21 percent of all units were built in 1939 or earlier. This finding is significant, because older units tend to require more maintenance and rehabilitation to remain fully habitable.



Source: US Bureau of the Census, Census 2000

In 2000, the median value of owner-occupied units was \$76,000. Median mortgages stood at \$685, while median rent was \$377. These numbers were substantially less than the median average for Wyoming as a whole, as can be seen in the following table.

Table 3.1 Median Values and Costs, Carbon County and Wyoming, 2000

Location	Median Value Owner-Occupied Units	Median Mortgages	Median Rent
Wyoming	\$96,600	\$825	\$437
Carbon County	\$76,500	\$685	\$377

Source: US Bureau of the Census, Census 2000

The lower median owner-occupied unit values, mortgages, and rent experienced in Carbon County may have been the result of the County's availability of housing supply and high vacancy rates. Carbon County's year 2000 homeowner vacancy rate (with 'homeowner' meaning the residents own their living unit) was 4.7 percent; by comparison, the State of Wyoming averaged a homeowner vacancy rate of 2.1 percent. A vacancy rate of 3 percent is generally considered as an indication of a healthy balance between supply and demand of housing units.

Rental vacancy rates were nearly 17 percent in the county; the State of Wyoming average was 9.7 percent. High rental vacancies tend to indicate an over-supply of units which can be the result of a weak local economy, a proliferation of substandard units, or a lack of units that meet local needs (senior housing, accessible units for persons with disabilities, and so forth).

### Current Cost of Housing

The Wyoming Department of Administration and Information, Economic Analysis Division prepares the Wyoming Cost of Living Index which includes average rental housing costs for Wyoming counties. In the second quarter of 2007, the average rental housing costs by type of unit were:

Table 3.2 Rental Housing Costs, Carbon County, 2<sup>nd</sup> Quarter 2007

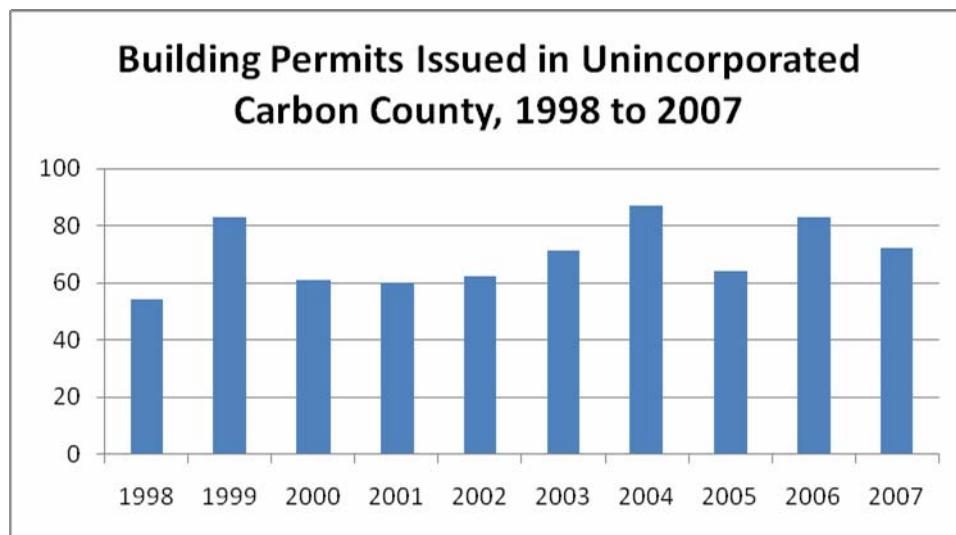
Type of Unit	Average Rental Cost
Apartments	\$740
Mobile Home Lot	\$288
House	\$800
Mobile Home on a Lot	\$575

Source: Wyoming Housing Database Partnership

The Wyoming Housing Database Partnership reported the real value of single family building permits (per unit valuation) in Carbon County was \$132,199 in 2006. That value has fluctuated widely from the year 2000 to 2006 in real dollars from a high of \$143,500 in 2000 (33 single family building permits were issued that year) and \$140,827 in 2005 (65 single family building permits issued) to a low of \$104,452 in 2004 (when 60 building permits were issued). By comparison, the statewide average value of building permits ranged from a low of \$166,740 in 2003 to a high of \$246,080 in 2000. Carbon County continues to have significantly lower per unit valuations for single family units than the state as a whole.

### Recent Residential Building Permit Activity

Information obtained from the Carbon County Planning and Zoning Department shows the yearly comparison in building permits issued in unincorporated Carbon County for all types of uses: residential units, accessory structures, commercial buildings, and so forth. The tallies for all building permits issued by the county from 1998 through 2007 are illustrated in the following graphic.



Source: Carbon County Department of Planning and Development

Looking specifically at permits issued for residential units in the unincorporated county, from 2001 through 2007 Carbon County had greater numbers of single family permits taken out per year than had occurred in the years immediately preceding 2001. Although the total permit numbers fluctuated up and down from 2001 to 2007, the overall trend was one of growth.

Table 3.3 Single Family Unit Building Permits,  
Unincorporated Carbon County, 2001-2007

Year	Single-Family Units
2001	37
2002	28
2003	33
2004	60
2005	65
2006	56
2007	66

Source: Wyoming Housing Database Partnership,  
Carbon County Department of Planning and Development

Far fewer permits have been issued for duplex or multi-family units. One duplex was permitted in 2006. Before that, five duplexes (10 units) had been permitted in 1998. No tri- or four-plex units have been authorized by the County since 1980. The only multi-family building that has been permitted since 1980 occurred in 1998 for 36 units.

#### Total Housing Stock by 2007

The US Census Bureau indicated the total number of housing units in the county (including incorporated areas) stood at 8,307 on April 1, 2000. Another 33 housing units were permitted in 2000 and it is assumed that all of the units were permitted after the completion of the 2000 Census count. Adding the single family and duplex units that have been permitted since April 2000, unincorporated Carbon County has increased its residential units by 380 units.

Incorporated cities and towns are responsible for submitting residential building permit information to the US Bureau of the Census during the years between official census counts. The self-reporting information for each town and city in Carbon County is summarized below. The table illustrates the significant boost in residential building permits experienced by Rawlins in 2007 and the increased residential permits issued for Baggs (27 permits) and Saratoga (24 permits) from 2005 through 2007. The rest of the towns had little or no increase in residential activity since 2000.

The conclusion is that 186 residential building permits were issued for the towns and city from 2000 to 2007, and 380 units were constructed in the unincorporated areas of Carbon County in that same timeframe. This results in a total of 8,873 residential units by the end of 2007, assuming that no units were removed from the housing stock between 2000 and 2007 by abandonment or demolition.

Table 3.4 Building Permits Issued for Residential Use,  
Incorporated Towns and City, 2000-2007

Town	2000	2001	2002	2003	2004	2005	2006	2007	2000-2007
<b>Baggs</b>	4	1	n/a	n/a	1	9	10	8	<b>33</b>
<b>Dixon</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<b>0</b>
<b>Elk Mountain</b>	0	0	2	0	2	2	1	2	<b>9</b>
<b>Encampment</b>	0	1	5	2	2	2	2	3	<b>17</b>
<b>Hanna</b>	n/a	n/a	n/a	0	0	0	0	1	<b>1</b>
<b>Medicine Bow</b>	0	0	0	0	0	0	1	0	<b>1</b>
<b>Rawlins</b>	3	5	2	3	10	11	n/a	46	<b>80</b>
<b>Riverside</b>	0	0	1	0	1	1	0	2	<b>5</b>
<b>Saratoga</b>	6	n/a	1	3	6	10	4	10	<b>40</b>
<b>Sinclair</b>	0	0	0	0	0	0	0	0	<b>0</b>
<b>Total</b>	<b>13</b>	<b>7</b>	<b>11</b>	<b>8</b>	<b>22</b>	<b>35</b>	<b>18</b>	<b>72</b>	<b>186</b>

Source: Census Statistics, US Bureau of the Census

#### Housing Needs Forecast

Future housing needs in Carbon County have been forecast by the Wyoming Housing Database Partnership. This housing forecast is based on the "strong growth" population growth scenario described in the Population Characteristic chapter of this plan. In making the forecast, population figures are converted to numbers of households. A household is comprised of families, individuals, and unrelated persons living in a single housing unit. Having a handle on the number of future households is key to estimating future housing needs, because there is one household for each occupied housing unit.

There were 6,129 households in Carbon County in 2000. This represents the total number of occupied housing units in the county. The total households in five year increments are forecast as follows.

Table 3.5 Household Forecast, Carbon County, 2000-2025

Year	Total Households
2000	6,129
2005	6,144
2010	6,546
2015	6,864
2020	7,255
2025	7,731

Source: Wyoming Housing Database Partnership

As indicated, the total households will grow by 1,602 from the year 2000 to 2025. This represents nearly a 21 percent increase.

The household forecast also indicates the income groupings the county population may have in the future. The income categories are established by percentage of median family income. Median family income represents the mid-point of all family incomes in Carbon County; in other words, half of the families have higher incomes, and half of the families have lower incomes. The median is the center point between the two extremes.

Households forecasts were prepared for five income groupings as a percentage of median family income: 0 to 30 percent (extremely low incomes), 31 to 50 percent (low income), 81 to 95 percent (moderately low income), and 96 percent or more of median family income. A comparison of the year 2000 households by percent of median family income and the year 2025 households illustrates the need for the County to address future diversification of housing stock to make sure its residents have sufficient housing for all income levels. The numbers of households in the extremely low, low, and moderately low income brackets are anticipated to escalate during this timeframe, putting additional pressure on the need for affordable housing units in the county. Examples of affordable housing options include the availability of subsidized housing, access to low interest loan programs for single family units, multi-family dwellings, and mobile home parks.

Table 3.6 Households by Percent of Median Family Income,  
Carbon County, 2000 and 2025

Year	Households by Percent of Median Family Income					Total
	0-30%	31-50%	51-80%	81-95%	96+%	
2000	741	818	1,105	295	3,171	6,129
2025	884	1,007	1,371	369	4,100	7,731

Source: Wyoming Housing Database Partnership

### Conclusions

In 2000, the Census Bureau established there were 8,307 total housing units in Carbon County: 6,129 (74 percent) were occupied and 2,178 (26 percent) were vacant (including recreation and seasonal homes). The forecast projects a total household (occupied housing unit) count of 7,731 by 2025.

The seasonal homes predicted to appear by 2025 are likely to continue to cluster in the scenic areas of the county, including sites adjoining the Medicine Bow National Forest and communities like Saratoga that currently attracts part-time residents.

To be most efficient in terms of providing services and infrastructure, the predicted full time residences should be located in or adjoining the county's population centers that will provide relatively easy access to employment.



*Photo by: Irene Archibald*

The permanent population that is forecast to arrive in Carbon County as a result of energy-related activities should be housed in locations that are readily accessible to services and infrastructure. The new population should also be in close proximity to their employment. It has been predicted that most of the population growth will occur in Rawlins, Baggs, Dixon, and Medicine Bow, with additional spill-over occurring in the remaining towns or unincorporated areas of the county.

To the extent possible, the county's land use policies should encourage the development of new housing in incorporated areas and on land that is zoned for greater residential density. This will allow better utilization of land, support for the incorporated towns, and reduced costs of providing services. Family-oriented apartments are also needed, especially given the very limited number of multi-family units that have been constructed since 1980. The construction of apartments, townhouses, and condominiums will provide additional housing opportunities for young families than are currently available.

There is also going to be a need for temporary housing in the form of recreational vehicle parks, motel units, and worker camps to accommodate the construction phases of the region's anticipated energy development. As was stated in the chapter titled Population Characteristics, Trends, and Forecasts, sizable work crews will be in the county during the construction phases; however, the workforce will tend to be comprised of single persons who are very transitory. While it is important that the workers be provided with housing opportunities, it is not necessary to construct permanent single family units or even many multi-family units to accommodate them.

Locations for temporary recreational vehicle parks that are fairly close to job sites will be critical, along with worker camps that are typically provided by the employers. The County's land use policies should help guide where these facilities can best be located.

## Chapter 4: Infrastructure

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### Introduction

One of the critical elements to supporting growth is the availability of basic infrastructure such as access to electricity, water, sewer and streets. Water, sewer and street services are typically offered by municipalities, and in more rural areas these services are provided by rural water, sewer and improvement and service districts. Private utilities provide electrical services and counties provide and maintain designated county roadways. State and federal highway systems provide backbone road infrastructure and connectivity throughout the country. This chapter reviews public services and utilities in Carbon County relative to their ability to support development and growth.



*Photo by: Carbon County Planning Staff*

### Municipalities

There are nine municipalities in Carbon County and one rural district that provide water to urbanized areas. Over 20 non-community water systems provide water to temporary or transient populations including nine systems located in the Medicine Bow National Forest (primarily campgrounds), travel centers such as Arlington Outpost on Interstate-80, and the marina at Seminoe Reservoir. This plan will focus on community water systems which serve the more permanent population bases in urbanized areas. Municipalities also provide and maintain sewer collection and treatment services and street systems for transportation. Those services are also detailed in this section.

The following table summarizes potential water system capacities for the urbanized areas:

Table 4.1 Potential Water System Capacities in Urbanized Areas

Water System Name	Current Population Served	Additional Water System Capacity	Maximum Population Served at Full Water System Capacity	Forecasted Population by 2020 (Strong Growth Scenario)
Rawlins	9,006	59%	15,000	9,400
Hanna	857	90%	1,700	895
Medicine Bow	264	85%	1,400	275
Elk Mountain	194	83%	355	202
Baggs	367	50%	550	384
Dixon	80	90%	152	83
Encampment	194	90%	368	202
Sinclair	403	0%*	0*	421
Saratoga	1,721	60%	3,000	1,800
Riverside/Sierra Madre	60	74%	104	63

\*Water to the Town of Sinclair is provided by Rawlins. Additional expansion of the Town would depend on the growth experienced by the City of Rawlins and any additional capacity the City would make available to Sinclair.

(Table Sources: State of Wyoming 2004 Water System Survey Report, Wyoming Water Development Commission and interviews with town staff.)

### City of Rawlins

The City of Rawlins is experiencing growth pressure resulting from the rapid energy development in Carbon County and eastern Sweetwater County. Two pending subdivisions totaling 70 acres will bring nearly 500 new residential units to the area in phases. The phased subdivisions will include 190 units with four apartment units, 68 town houses, and 26 single family homes. A 19-acre subdivision containing 99 lots is proposed to add 100-130 large single family, small single family and twin home units. Final designs are pending and the exact mixture of housing types is undetermined. The majority of the expansion is occurring in the northern and eastern areas of the City. An approved apartment complex on the south side of Rawlins will bring twelve 16-unit apartment buildings to that area of the City.

City officials report adequate water capacity is available through their existing sources including a series of springs and wells along Sage Creek, and from surface water rights from the North Platte River. Rawlins acquired additional surface water rights from the Town of Sinclair when Rawlins began providing water to Sinclair in 2007. The surface water rights have historically been underutilized by the City and if fully utilized, could provide an additional 50% capacity to the system.

The treatment plant has a capacity of eight million gallons per day, however, the plant typically produces a maximum of five-million gallons per day during peak demand. The Town of Sinclair connected to the City's water system in 2007 and

draws 1.5 million gallons per day of additional demand from the system. It is estimated that the current water plant is only utilized at 50% capacity and could provide water for a total population of between 15,000 and 17,000 residents. With the current population of Rawlins estimated at just over 9,000 people and Sinclair estimated at just over 400, the plant is capable of producing enough water for the projected population increases through the year 2020. Using the strong growth scenario explained in the Population Characteristics section, the forecasted population for Rawlins by the year 2020 is 9,400 residents and 421 residents in Sinclair.

Water storage is provided from four storage tanks totaling 19.5 million gallons. The City will complete a Level II Study of the raw water storage this summer. The study, funded by the Wyoming Water Development Commission, is part of the City's master planning efforts and will provide an analysis of the existing storage system, its capacities, and provide recommendations for upgrades or replacements as necessary. Currently, the study recommends construction of a new 644 acre-foot reservoir (Peaking II) close to the existing Peaking reservoir or at a site known as Five-Mile. The new reservoir is necessary to provide storage so the leaking Atlantic Rim Reservoir can be decommissioned and its capacity transferred to the new reservoir. An additional 644 acre-foot reservoir is also recommended for construction at the Five-Mile site. An earlier water supply evaluation identified the need for either additional reliable storage or additional pumping to address projected shortfalls in peak water demand during drought events. Other weaknesses identified included the on-going leakage of the Atlantic Rim reservoir and its inability to store water from the Platte River.

Sewer capacity is adequate for current expansion and the City is extending a gravity feed sewer line west to the Flying J Truck Stop to accommodate additional growth in the area. This extension will open up both sides of Interstate-80 for development. The proposed sewer line will cross lands owned by the Bureau of Land Management (BLM), and the city is in the process of purchasing several parcels of land from the BLM in the area of the expansion. Phase I of the project will end just south and west of Interstate-80. The sewer line extension was funded through energy development impact monies from the State of Wyoming. Rawlins has adequate sewer capacity to accommodate the forecasted 4.5% population increase through the year 2020.

Streets within the City are reported to be in good condition. New street projects include a new arterial street into the Highland Town and Highland Hills subdivisions constructed as a partnership between the City, the developer, and the school district. As a result of the significant residential development, the school facilities commission is evaluating the need to construct an additional school to serve the area.

Several Wyoming Department of Transportation projects are proposed for the area in and around Rawlins including:

- Replacement of the East Cedar Street bridge on Interstate-80 which will be completed by the year 2010.
- Reconstruction of Highway 287 (3rd Street) from Cedar to Spruce, and Spruce Street between 3rd and 16th Streets. The reconstruction includes upgrading the surface from asphalt to concrete and water, sewer, storm sewer and electrical upgrades, curb, gutter, and sidewalk improvements, removal of concrete medians and lighting relocation

from the medians to street edges. The project is currently underway and expected to be completed by the year 2009.

- Reconstruction of Murray Street from Airport Road to the Highway 287 Bypass. The reconstruction will consist of plant mix and will include upgrades of utility lines. The project is underway and expected to be completed by 2009.
- A joint project between the Wyoming Department of Transportation (WYDOT), U.S. Forest Service and Carbon County will upgrade Highway 71 just south of 8th Street in Rawlins and extending to the Medicine Bow National Forest. Improvements will include widening the travel lanes from 11 to 12 foot widths and adding four-foot shoulders. WYDOT will complete the first ten mile section in 2008. The remaining segment extending into the National Forest will be upgraded by the County and Forest Service. The date of completion for improvements beyond the first ten miles is not known.
- In 2009, WYDOT will repair subsurface failures on Interstate-80 west of Rawlins from mile post 199 to 211. Low spots along the ten mile segment will be filled and will receive a pavement overlay to stabilize the road surface. Traffic will be narrowed from four lanes to two lanes during construction.

The Wyoming Department of Transportation anticipates only minor, temporary traffic impacts from these construction projects. Once completed, the upgraded surfaces will enhance any additional growth within the City of Rawlins.

#### Town of Hanna

Hanna has not experienced any significant growth in recent years. A four-lot subdivision was approved by the Town in 2007, however, the developer did not complete the project and no additional homes were constructed. The Town may have some infill opportunities with approximately 75 platted lots available for development. Water and sewer is readily available to these vacant lots.

Hanna is anticipating substantial impact from two energy related projects including the coal-to-liquids plant and two wind farm projects planned for the area. Estimates indicate that a construction workforce of approximately 2,000 to 4,000 workers may locate to the area during initial construction of the projects. Approximately 200 to 400 of the employees are expected to make their permanent homes in the area once construction of the facilities is completed. Hanna is investigating accommodating the influx of workers with mancamps as the Town has limited space for new development within the current Town limits. The Town is bordered by federally controlled lands and by railroad property making expansion of the corporate limits difficult.

The existing surface water treatment plant was constructed in the 1980's when the Town's population was booming. Water is provided from a 20 million gallon concrete reservoir supplied by Rattle Snake Creek. Storage for the system is provided by a one million gallon storage tank. Upgrades to the plant are underway to ensure the plant remains in compliance with the latest Environmental Protection Agency's surface water treatment regulations. The plant is currently underutilized with a

population of 857 residents creating a demand of only 1.5 million gallons in a seven day period. The plant is capable of producing one million gallons per day. Estimates are that an additional capacity of 90% is available from the plant. The Town estimates the existing capacity of the plant could provide adequate water to an approximate population of 1,700. The plant has adequate capacity to serve the existing residents as well as any future expansion.



Hanna Water Treatment Plant

Hanna's sewage system is adequate for the current flow rates but dredging of the cells to increase depth and capacity may be needed for anticipated growth. Dredging is a far less costly procedure than construction of additional cells to increase lagoon capacity. The Town is expected to receive monies from the State Loan and Investments Board through Carbon County to upgrade its sewage system and to complete some water system upgrades.

Fifty-percent of the streets in Hanna are paved with the remaining fifty-percent improved as graveled roads. The majority of the paved streets are located in the Town's core with older parts of Town accessed from graveled streets. Hanna is focusing on water and sewer upgrades and has no street improvement projects planned at this time.

The Wyoming Department of Transportation (WYDOT), however, will be completing a highway improvement project for Highway 72 between Hanna and Interstate-80. Travel lanes will be widened to 12 feet and shoulders expanded to six feet. Construction of a coal-to-liquids plant in the area is expected to increase traffic on this highway segment and improvements are being completed in anticipation of the increased traffic volumes. Improvements will begin in 2008 and will be completed in the year 2009. WYDOT will also complete an overlayment of Highway 30 between Wolcott Junction and Hanna in 2008.

#### Town of Medicine Bow

Medicine Bow has been quite progressive in recent years with infrastructure upgrades in anticipation of the influx of temporary and permanent workers for the coal gasification plant and wind farm industries. The current population of the Town is estimated to be 264 people.

The Town began preparing for its potential expansion several years ago by installing a state-of-the-art ion exchange water treatment plant. Water is provided through wells located near Como Bluffs, east of Medicine Bow. The water treatment plant can produce 210 gallons per minute, which would accommodate a population of



Medicine Bow Water Treatment Plant

approximately 1,400 people based on a usage rate of 210 gallons per person per day. A new transmission line is needed from the wells to the plant and will be completed when funding becomes available. Water mains have been replaced in 2007 and 2008, and the 1.5 million gallon water storage tank was repaired and repainted within the past two years. New water meters were installed in 2006.



Medicine Bow water line replacement, 2008

The sewage system consists of a three cell system. Currently the Town is using only one cell and expansion to the other two cells would provide capacity for a population of up to 5,000 residents. The majority of the sewer lines were rehabilitated twelve years ago, however, some lines on the west side of Town may need to be replaced. These lines were installed in the 1980's for a subdivision that was not constructed and consequently, the lines have not been used or have been underutilized. The sewer lift station was replaced in 2006.

Medicine Bow's streets have been maintained by chip seal and will be replaced when funding can be located.

Streets will be rehabilitated after completion of all water and sewer line upgrades which are currently underway in the Town.

The Town is anticipating a preliminary plat for a 70-acre subdivision for 80 homes including greenways, parks and a business development. The subdivision would double the current size of the Town. Water and sewer are available within 150 feet of the property line but will need to be extended to and through the subdivision. Current housing in the Town is very tight with only seven or eight houses available for rent or purchase. A recreational vehicle park providing approximately 30 spaces is also under construction and will help provide housing to temporary workers.

#### Town of Elk Mountain

Elk Mountain's current population is approximately 200 residents. Water is provided to the 126 taps from an artesian well flowing at 32 gallons per minute. The artesian flow is adequate to accommodate off-peak demands, however, the well is pumped in the peak summer months to provide 105 gallons per minute. At an average daily consumption rate of 210 gallons per person per day, the Town could provide enough water to approximately 700 residents if the well was continuously pumped. Continual pumping of the well may create too much demand on the aquifer and affect the recharge rate over time as well as potentially lowering the yield from the well. A more realistic number for expansion may be an additional 100 residents which would not require continuous pumping of the well. Storage is provided from two 100,000 gallon storage tanks. The water system is fairly new with major improvements completed in 1991. The Town is seeking funding from the pending capital facilities tax to drill an additional well. The vote for the tax will take place in November of 2008.

Sewage treatment is provided by a lagoon system which was constructed in 1986 and appears to have adequate capacity for some expansion.

One new subdivision is proposed for the area and will include 50 lots with a mixture of multi-family and single family residential construction. Elk Mountain has received a sketch plat showing preliminary boundaries of the proposed subdivision. In addition to the pending subdivision, the Town has an additional approximately 20 platted lots available for development. Water and sewer lines are available to serve this area.

Elk Mountain's roads are unpaved, gravel surfaced, however, the Town is working with the Wyoming Department of Transportation to secure some roto-milled asphalt stockpiled for a recent Interstate-80 project. The Interstate project will resurface a portion of the Interstate between Wolcott Junction and Elk Mountain where potholes have developed. Five inches of road surface will be removed and replaced. Completion of the Interstate improvement project is scheduled for 2012.

#### Town of Baggs

While the Town of Baggs is located close to some of the major gas exploration activity in Carbon County, it has not experienced a rapid influx of residents or dramatic increase in development because of a lack of available housing. The availability of rental housing is limited, however, the local hotels have experienced higher occupancy rates. One combination residential and commercial subdivision is being planned for an area outside the Town limits but the area is not contiguous with the Town and is not eligible for annexation. Within the Town limits, two subdivisions totaling 21 lots were completed in 2007. Five homes have been constructed within the new subdivisions which are located in the southeast and east areas of Baggs. The Town's policy for extension of water and sewer requires annexation. Two mancamps located approximately 20 miles north of the Town appear to handle the majority of the workers. Combined, the mancamps provide housing for 480 workers.

Housing prices in the Town are reported to be high and potentially cost prohibitive with few rental houses available. Approximately 20 vacant lots are available for infill development, including 15 lots platted in the 1980's equipped recently with the required infrastructure. The Town is not anticipating more than historic growth and isn't planning for additional development as a result of energy development, however, Baggs provides water to 44 taps outside the Town limits. Depending on future growth decisions, some or all of these outside water users could be annexed to the Town in the future.

A new state-of-the-art ultra-filtration plant was installed in 2007 to capture additional capacity from the Little Snake River. The new plant will increase water capacity to 500,000 gallons per day. A three-phase water distribution project is underway to upgrade existing water lines and the Town expects to bid the project in the summer of 2008. The plant expansion will provide an additional capacity of nearly 50% which will accommodate any future growth



*Photo by: Pepper McClenahan*

anticipated by the Town, up to 350 taps. Baggs also provides water to another public water system operated by the North Baggs Homeowners Association, a subdivision located outside the Town limits. The Association in turn distributes water to their 23 residential customers and is responsible for meeting all of the requirements of a public water system including monitoring and testing, repairs and maintenance, and billing. The Town also provides water to an additional six residential customers located south and west of Baggs. In 2000, Baggs adopted a policy requiring annexation of property before water can be provided to rural customers.

Water storage is provided from one 280,000 gallon tank. An additional storage tank will be required to make full use of the new water plant's capacity. The distribution system has been targeted for upgrades to address existing pressure and fire flow issues. The projected completion of the distribution upgrades is the year 2009.

Baggs' sewer system will need upgrades in order to accommodate additional growth and several enhancement projects have been planned. The collection system has been targeted for upgrades to replace old clay tile lines. Approximately 50% of the sewer collection system is comprised of clay tile lines. PVC was installed in approximately one-third of the collection system, however, the six-inch lines were installed at shallow depths making new connections difficult or necessitating installation of a force main. Baggs completed a camera inspection of the lines and noted areas of collapse, root intrusion and joint separation. The lagoon system itself is over-sized for the current usage and the Town only discharges intermittently (approximately every 6 months). Funding has been secured from the State Loan and Investment Board (SLIB) to complete some of the improvements and the Town is asking voters to approve a specific purpose tax funding the amount of \$500,000 to complete the necessary improvements.

Baggs' streets are primarily unpaved, graveled roads with the exception of Highways 789 and 70 which are paved roadways. The Town has a yearly magnesium chloride maintenance program, and gravels the roads as the budget allows.

The Wyoming Department of Transportation has been upgrading Highway 789 south of Interstate-80 at Creston Junction over the past several years. The Highway has experienced impacts from increased traffic volumes related to energy development in the area. Ten miles of overlayment was completed in 2007. The entire 50 miles of highway extending to the Town of Baggs will be completed by 2009.

#### Town of Dixon

The Town of Dixon was originally platted in small, 25-foot by 117-foot lots that require ownership of multiple lots in order for development to occur. Currently, approximately 30 vacant lots are available for development adding a potential of 15 additional residences to the Town. Dixon has no rental housing available and there are limited resources available to house additional residents. Dixon has not seen any new subdivision development for a number of years, however, a new 22-room hotel has recently been constructed. Development pressure is limited by the availability of existing homes. Aside from the newly constructed hotel, there has been no new construction in the town.

The Town's water supply is provided by surface water from the Little Snake River and serves a current population of approximately 79 residents. Dixon is currently

under an administrative order for violations of the Environmental Protection Agency's public water system monitoring requirements. A new membrane filtration plant is scheduled for installation in the winter 2008-2009 and will double the water system's capacity from 70 gallons per minute to 150 gallons per minute. Water system lines are relatively new having been upgraded to PVC pipe within the last ten years. As a result of the increased water capacity, the Town could accommodate a doubling of its current population.

The Wyoming Water Development Commission in conjunction with Camp Creek Engineering is completing a Level II water study for the Town. The study assesses current water system components such as water source, storage capacity and needs, treatment options, and the condition of transmission and distribution lines. The study will also evaluate Dixon's ability to convert to a ground water system based on the results of water well sampling in the area. The final report is expected to be available in 2008.

Dixon's sewage system has recently been restored through vacuum cleaning and is reported to be in good condition. The system is adequate to handle any anticipated growth in the area.

Streets within the Town are unpaved, gravel surfaced roadways with the exception of Highway 70 which is paved and maintained by the Wyoming Department of Transportation. Cottonwood Street is also paved and is a designated County road.

#### Town of Encampment

Similar to Dixon, the Town of Encampment is not experiencing any development pressure. The Town has lost population from its peak of 680 in the 1980's to approximately 450 current residents. A recent natural gas exploratory well in the Walden, Colorado area has revealed the potential for a large gas field which may bring additional residents to the Encampment area.

The Town has been upgrading the existing surface water treatment plant by adding membrane filtration units to enhance the finished water and assure compliance with new turbidity requirements for public water systems. The new plant is scheduled to go online by August of 2008 and draws water from the North Fork of the Encampment River. The original plant was capable of producing 400 gallons per minute and was constructed in 1981. Due to the cold temperatures of the North Fork of the Encampment River, the Town's water source, production must be scaled back in winter months to only 150 gallons per minute in order for process chemicals to function properly. During summer months, the plant has been producing 200 gallons per minute. Plant upgrades will restore full function to the treatment plant and increase the plant's capacity from 400 to 450 gallons per minute. Encampment's water system could accommodate more than twice the current population.



North Fork Encampment River

The Town's sewage system is currently underutilized and is in good repair. Lack of flows through the system can create maintenance issues, however the system itself has adequate capacity to support a doubling of the Town's population.

Streets in Encampment are unpaved, gravel roads with the exception of Highway 70. The Town is waiting to complete water and sewer line upgrades before surfacing the streets.

Encampment has limited opportunities for infill development within the Town. Undeveloped lots would require extension of water and sewer lines. The Town could utilize capital facilities tax monies to upgrade water and sewer lines including extending the lines to vacant areas in order to open the areas up for additional development. The capital facilities tax will be on the November, 2008 election ballot.

#### Town of Sinclair

Sinclair lacks the ability to expand because of sharing its borders with the Sinclair Oil Refinery, federal lands managed by the Bureau of Land Management, and railroad property. Private property owners in the area have not indicated an interest in annexation or subdivision development despite the water and sewer system's ability to accommodate additional growth. The refinery is expanding and creating a need for additional housing, however housing availability is limited and homes are quickly rented or purchased.

The Town connected to the City of Rawlins' water system in 2007, and completed a major water system upgrade including lines and a new 500,000 gallon storage tank in 2003. The sewer system is owned and operated by Sinclair and has adequate capacity for anticipated growth. A lift station located on the west end of Town was replaced in 2007 and funding is available to replace the east-end lift station in 2008. Sinclair applies for funding every other year to complete sewer line upgrades and replacements, and street improvements. At the present time, two-thirds of the sewer lines and streets have been upgraded. Recent and future upgrades will be sufficient to accommodate the minimal growth expected by the Town.

#### Town of Saratoga

Two new subdivisions were approved in 2007 adding 62 single-family residential lots to Saratoga. In 2008, two more subdivisions are pending totaling 28 additional single-family lots. Saratoga is expecting additional growth and is expanding in the northern, southern and western areas of Town.

Extensive water system changes have been made in recent years. The existing surface water treatment plant is being replaced by a groundwater system by November of 2008. The new system of five wells will expand service capacity from the existing 1,800 residents to a potential population of 3,000 residents. The Town has ample water storage totaling two million gallons. The current sewer system also has the capacity to serve 3,000 residents.

Water and sewer lines in the areas of new development are in good repair, however other areas of Saratoga's water and sewer lines are in need of upgrades. Funding has been secured for sewer lines in the eastern portion of Saratoga. Water lines are 30 years old and consist of outdated materials, mainly ductile iron pipe.

Streets are reported to be in good repair with the exception of minor repairs needed as a result of harsh winter seasons.

### Town of Riverside



*Photo by: Pepper McClenahan*

The Sierra Madre Joint Powers Board provides culinary water to the Town of Riverside. The system is a relatively new groundwater system constructed in the past 11 years. The rural water system also provides water to two large subdivisions outside of the Riverside Town limits.

Several water system improvements are planned for the near future which will boost capacity and supply. The addition of a new water well will bring the Town's total number of supply wells to three.

Another 300,000 gallon storage tank will nearly double storage capacity, and provide additional fire protection for the Town. Water system improvements are being funded by a recently passed capital facilities tax.

Riverside does own its sewage system which serves only the residents of the Town. The sewer system was constructed within the past 15 years and includes a new lift station. However the system is reported to be at or near capacity. Construction of an additional lagoon will be necessary to accommodate additional growth within the Town. The Town also desires to modify the form of disinfection used in the sewage system to a method that would not require chlorine removal prior to discharge. The likely source of funding for future sewer system improvements will be the State Loan and Investment Board.

### Electrical Services

Carbon County's electrical needs are serviced by four utility companies. Their service areas and capacities are detailed in the following section. Adequate capacity exists for residential expansion, however, several utilities are experiencing limitations in serving large-load industrial customers such as those found in the oil and gas industries and anticipated in proposed wind farm projects.

Carbon Power and Light, Incorporated serves 5,793 customers in a two-county area beginning east of Sinclair and extending to Laramie along Highway 30, including the Town of Hanna. The service area includes rural customers near Medicine Bow but does not include the Town of Medicine Bow. Medicine Bow is served by High Plains Power located in Riverton, Wyoming. The service area also extends south to the Colorado border. Customers are sparse, averaging three customers per mile of line. A total of 3,276 customers are served in Carbon County. Approximately 80% of those metered are residential customers. Carbon Power's facilities are reported to be at 60% capacity in Carbon County with additional capacity to support residential expansion subject to extension of service lines. However, transmission facilities are needed to support several planned wind farm projects particularly those close to the Elk Mountain area.

Yampa Valley Electrical Association serves approximately 2,000 customers in southern Carbon County 24 miles north, 13 miles west and 40 miles east of Baggs. Service includes the Towns of Baggs and Dixon as well as rural customers. Adequate capacity exists to serve additional residential customers and average sized commercial enterprises, however, large-load customers requiring three-phase power, such as those in the oil, gas and farming industries, exceed the utility's present capacity. All requests to service 50 horse power or more are reviewed to determine adequate capacity. Yampa Valley recently rebuilt a portion of the Baggs substation to provide additional capacity. The utility is near capacity for larger customers, and before extending service to additional customers, will require users to contribute a proportionate share for the cost to rebuild the Baggs substation and adjacent distribution lines.

Rocky Mountain Power (RMP) services customers in the Towns of Hanna, Sinclair and Rawlins, and 1,500 rural customers. The service area extends from Hanna west into Sweetwater County. One of the largest customers on the distribution system is the Sinclair Refinery. Within the next year, the refinery will construct its own substation and will transfer from a distribution customer to a transmission customer. The change will result in additional distribution capacity for Rocky Mountain Power who estimates they are currently at 80% capacity.

RMP has recently completed several improvement projects which add additional capacity to their system for larger customers including a new three-phase distribution line in the Atlantic Rim area in 2007 which can provide an additional 50% capacity to small and large-load users. A new substation constructed in western Carbon County provides capacity to serve not only Carbon County but the brisk growth experienced in Wamsutter just a few miles on the other side of the Carbon/Sweetwater County line. The remaining capacity is adequate to serve large-load customers, however, RMP may limit the amount of power provided or require the customer to have a secondary source of power.

Wind farms are not expected to impact the RMP system, and growth rates for both Hanna and Rawlins are steady at 1% or less per year. The utility is not seeing impacts from rural subdivisions and the ability to provide power to such subdivisions is dependent upon the cost of running services lines. Homeowners or developers will be required to cover all costs for service extensions and connections.

High Plains Power provides electrical service to 261 primarily residential customers in the Town of Medicine Bow and a few rural ranch customers north of the Town limits. The company is in the process of updating from a lower voltage to a high voltage system which will provide another 50% capacity, up to 500 additional customers. The company will grow as demand grows and is prepared to construct additional facilities as needed to accommodate any growth experienced beyond its current 500 customer capacity.

#### Landfills

On March 24, 2006 the Governor signed into law Senate File 0038. The bill calls for operating landfills to prepare Integrated Solid Waste Management (ISWM) plans to be submitted to the Department of Environmental Quality (DEQ) by July 1, 2009. The legislation also provides \$1.3 million in financial assistance to local government entities preparing plans and includes financial incentives for Regional Waste Management plans. The plans identify landfill locations, contents, recycling efforts

and infrastructure necessary to operate landfills in compliance with State Law for a period of 20 years. The second phase of the legislation requires compliance measures and facilities to be constructed to address potential or demonstrated areas of groundwater contamination. In response to the new legislation, municipalities and landfill districts in Carbon County have begun preparation of the ISWM plans and to prepare for the other requirements of the legislation including possible closure, lining and monitoring of existing landfills. The Districts manage all aspects of the landfills including the assessment of fees and any improvements or property acquisitions.

The Upper Platte River Solid Waste Disposal District is comprised of the Towns of Saratoga, Encampment, Riverside and the Platte River Valley south to the Wyoming/Colorado state line. Saratoga's landfill has approximately 10 years of capacity remaining and the District has an additional 40 acres to provide up to 40 years additional life to the landfill. The District is also evaluating the addition of a transfer station to transport municipal waste to another facility and limiting use of the landfill to yard and construction waste.

The Towns of Dixon, Savery, and Baggs utilize the landfill in Baggs and have formed the Baggs Solid Waste Disposal District. The District has recently acquired an additional 80 acres and has just constructed a bailer building to maximize space in the landfill. Ample capacity exists in the landfill that could accommodate as much as another 100 years.

High Country Joint Powers Board administers landfill serves to Hanna, Medicine Bow, and Elk Mountain. Hanna's landfill is utilized by all three towns in the High Country District. The landfill is nearing capacity and the Board is evaluating a transfer station for municipal waste. The Board is working in conjunction with Casper on their Solid Waste Management plan.

Rather than a District, the City of Rawlins owns, operates, and manages its municipal landfill. Rawlins accepts waste from the Town of Sinclair and is teaming with Casper to complete their ISWM plan. Rawlins is reported to be close to capacity and is evaluating a transfer station to export municipal waste to another landfill facility.

### Summary

For the most part, infrastructure in Carbon County is adequate to accommodate the projected growth for the next twenty years. In several small towns, a lack of housing appears to pose a larger impediment to growth than the availability of water, sewer, roads, and electrical services.

The majority of municipal water and sewer systems in Carbon County are of adequate size and condition to accommodate projected growth, and many have been or are in the process of being upgraded to provide additional capacity. Replacement and updating of water distribution and sewer collection lines lag behind treatment plant upgrades and new water source development primarily because funding sources for collection and distribution upgrades is not as readily available. Completion of water and sewer line upgrades depends upon additional funding sources such as the anticipated capital facilities tax up for vote in November of 2008. Traditional funding mechanisms used to pay for water source, treatment plant and storage tanks are not available to cover the costs of water and sewer line extensions. Rawlins and Medicine Bow in particular are anticipating population increases from energy related projects and have been preparing their infrastructure to accommodate the increase in growth. The remaining municipalities in Carbon

County, while not anticipating an influx of population, would be able to accommodate additional growth. The best way for expansion to occur is for development to pay for the costs of infrastructure, particularly water and sewer line extensions.

Transportation corridors, particularly the highway system, are reported to be in good condition. Numerous upgrades and reconstruction projects are underway or in the planning phases that will keep pace with increasing traffic loads and levels of service. The increasing traffic volumes have impacted roadway surfacing by requiring more frequent overlays than the typical five to seven year cycle. The Wyoming Department of Transportation does not anticipate any impediments to growth and only limited traffic flow issues during the planned reconstruction projects.

Electric service providers indicate no impediments to residential growth in existing areas of service but are watching large-load users closely to avoid system overloading. As with water and sewer extensions, additional electric service areas are on a "pay as you go" basis with costs being covered by the developer or user.

## CARBON COUNTY LAND USE PLAN

Essential Public Services  
Carbon County

### LEGEND

Efficiency of Providing  
Essential Public Services  
(Fire Protection, Law Enforcement,  
Hospitals, Clinics, and Schools)

Highest Efficiency

Lowest Efficiency

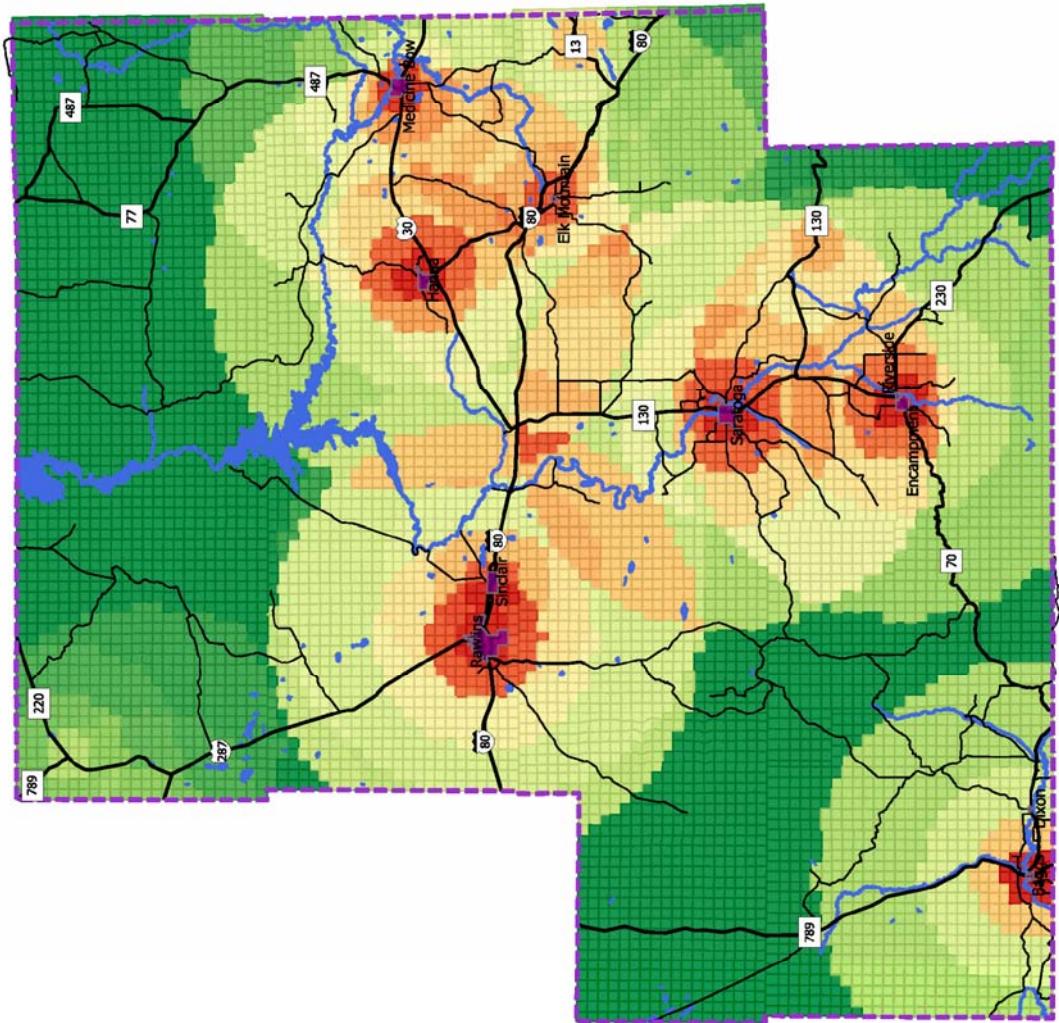
Other Map Features

- Municipalities
- Reservoirs and Lakes
- Rivers and Streams
- Major Roads
- Minor Roads
- County Boundary

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## Chapter 5: Agriculture

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### Introduction

Like the state as a whole, agriculture plays a significant role in Carbon County. There is every reason to believe that agriculture will remain an important land use component of the county, even though its economic impact may not be as strong as other drivers such as energy development or construction.

Wyoming's current top industries include agriculture, minerals, and tourism. Cash receipts for agriculture alone are nearly \$1 billion annually, according to the US Department of Agriculture National Agricultural Statistics Service. Cattle production is the largest agricultural commodity in the state, and Carbon County is one of its top producers. Wyoming ranks second in the United States in sheep and lambs and second in wool production. The county ranks tenth in the state for sheep and lambs.

What follows is an assessment of agricultural characteristics and trends in Carbon County. Much of the data is based on the U.S. Census of Agriculture county data reports for Wyoming, which was last published for the year 2007. Information from earlier years is also presented for comparison purposes.



*Photo by: Linda Fleming*

### Number of Farms and Ranches

In 2007, Carbon County had 287 farms and ranches, which was a slight decrease from 2002 when there were 290. While the total acres in farms and ranches and their average size have decreased from 2002 to 2007, the estimated market value of the land and buildings increased by 37 percent.

Table 5.1 Number and Average Size of Operations, Carbon County, 2007

<b>Number of farms and ranches</b>	<b>287</b>
Total acres in farms and ranches	2,172,544
Average size of farm or ranch	7,570
Value of land and buildings (per farm)	\$2,377,318

Source: 2007 Census of Agriculture

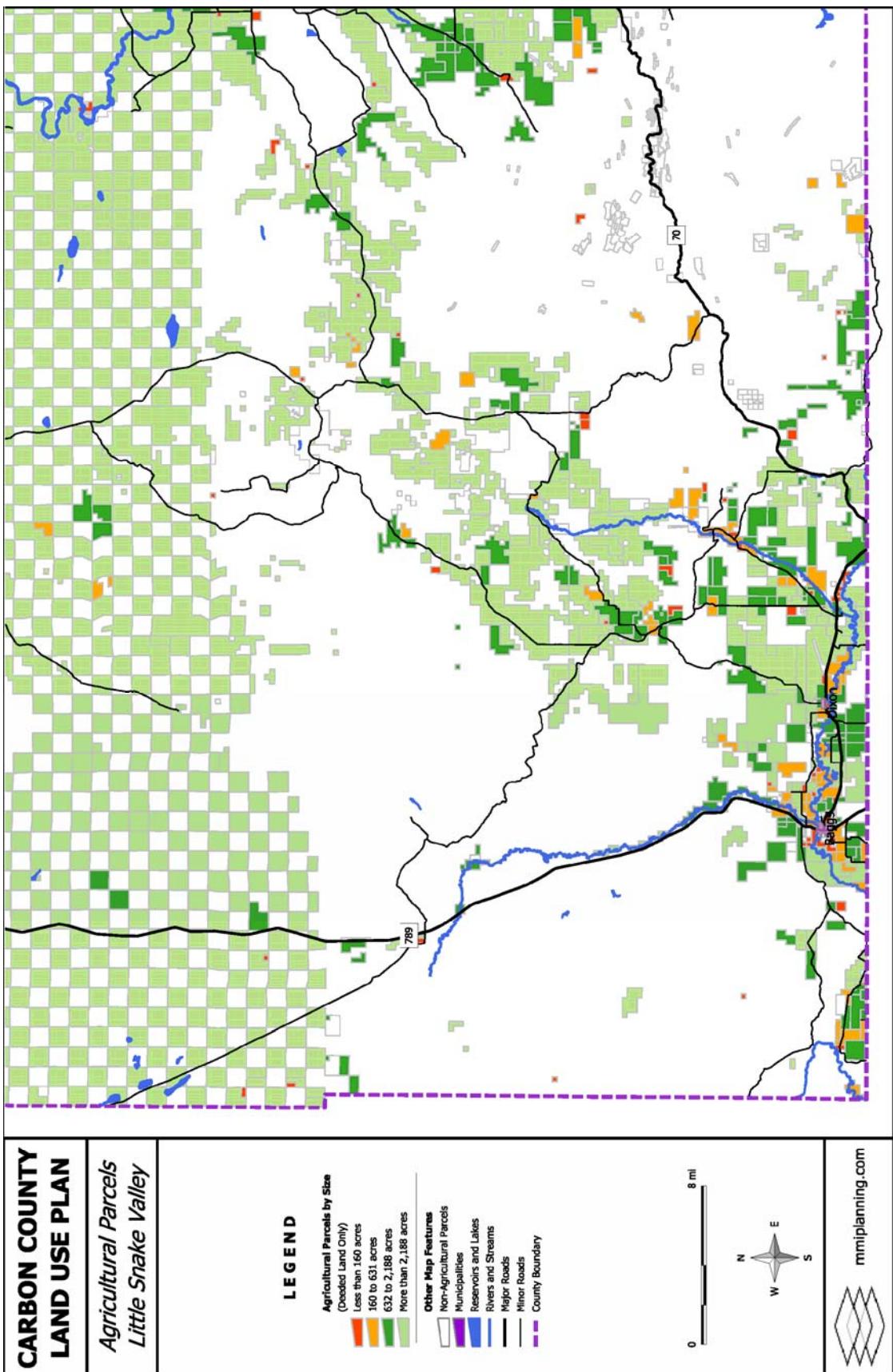


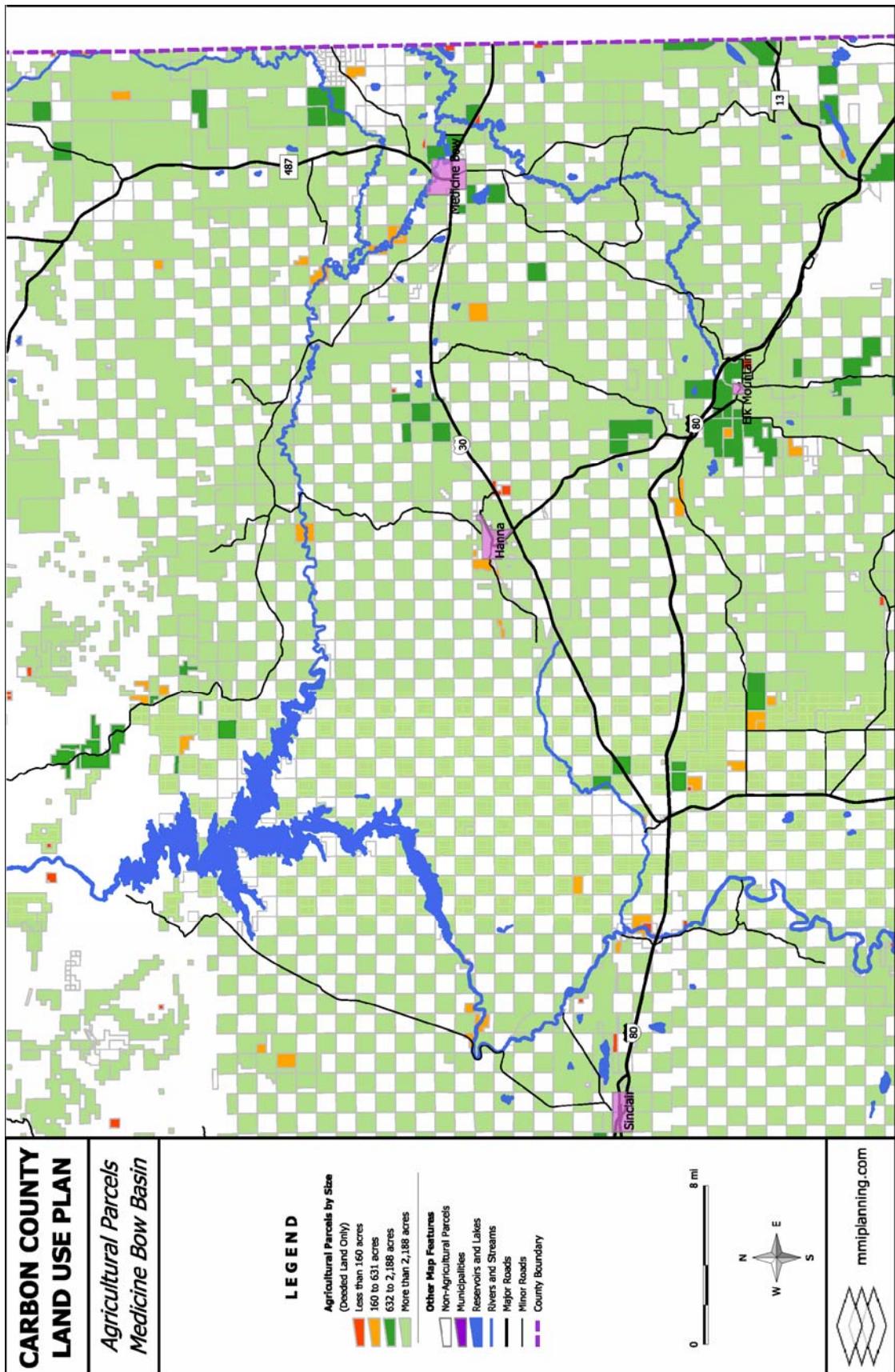
Table 5.2 Number and Average Size of Operations, Carbon County, 2002

<b>Number of farms and ranches</b>	<b>290</b>
Total acres in farms and ranches	2,329,571
Average size of farm or ranch	8,033
Value of land and buildings (per farm)	\$1,732,070

Source: 2002 Census of Agriculture

Looking further back in time, the number of farms and ranches had decreased by 25 from 1997 to 2002, along with the number of acres in farms. However, the average size of farms increased from 7,406 acres in 1997 to 8,033 acres in 2002, before decreasing again to 7,570 in 2007.

The number of farms and ranches by size has remained relatively stable between 2002 and 2007. One exception is the increased number of farms and ranches that are between 50 and 179 acres, which grew from 13 percent of all farms and ranches in 2002 to 19 percent by 2007. More interesting is the fact that there has not been an increase in what are commonly referred to as ranchettes or hobby farms. The number of farms having 1 to 9 acres decreased from 2002 to 2007 and farms with 10 to 49 acres increased by one. All other sizes of farms also decreased in number except for the ones that were between 50 and 179 acres, and this is reflected in the smaller average size of farms and ranches – 8,033 acres in 2002 versus 7,570 acres in 2007.



The US Census of Agriculture defines land in farms as an operating unit that includes land owned and operated as well as land rented from others. There is one important exception, though. All grazing land, except land used under government permits on a per-head basis, is included as 'land in farms' as long as it is part of a farm or ranch. This means it is possible to be identified as a ranch or farm with fewer acres than are actually required to run the operation. Ranchers often need to move their grazing cattle, for example, to an allotment of public land on a seasonal basis. Even though they are using the public land for private livestock, the allotted public land is not included in their farm or ranch acreage total.

Table 5.3 Farms by Size, Carbon County, 2002 and 2007

Size	2002	2007
1 to 9 acres	15	12
10 to 49 acres	36	35
50 to 179 acres	39	55
180 to 499 acres	36	30
500 to 999 acres	26	23
1,000 acres or more	138	132

Source: 2002 and 2007 Census of Agriculture

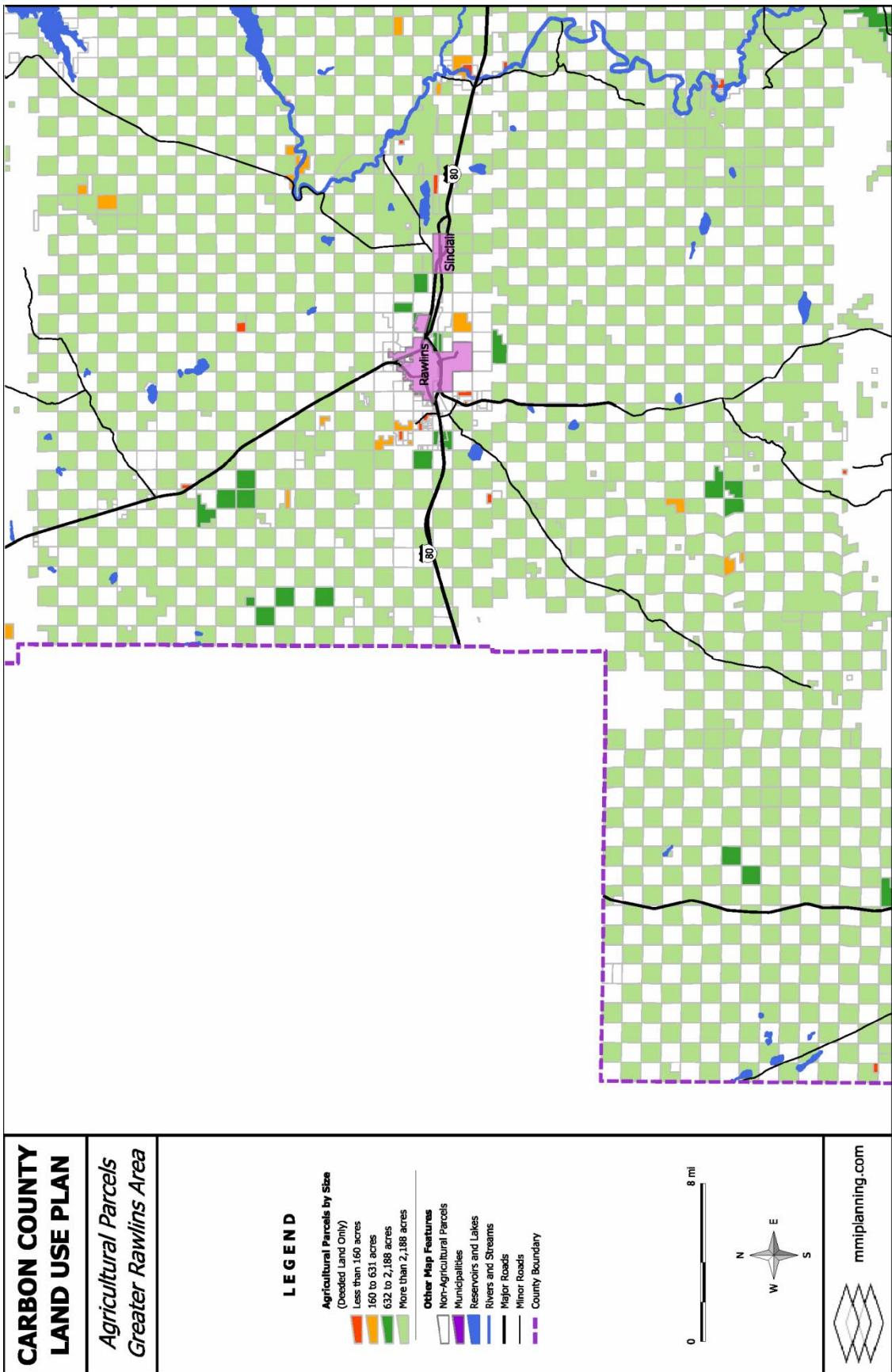
The Carbon County Geographic Information System (GIS) has information regarding the size, use, and ownership of land parcels. Using this data to look at the sizes of those parcels, there are 504 agricultural parcels and one quarter of them are smaller than 160 acres in size. Half of the 504 parcels are smaller than 632 acres, and three-quarters of the total are smaller than 2,188 acres. In calculating these statistics, a parcel is considered as all land owned by the same entity whether or not it is contiguous.

#### Agricultural Products

In 2006, Carbon County ranked fourth among all Wyoming Counties in cattle and calves, with 97,000 head of cattle. The county ranked tenth in breeding sheep and lambs, with 13,000 head. Looking at crop production, the county was ranked sixth in tons of hay.

The Wyoming Field Office of the US Department of Agriculture National Agricultural Statistics Service estimated that the county's 2006 inventory value of their livestock (cattle, sheep, wool, hogs, and milk) was \$100,502,000. The value of crop production (which in Carbon County was primarily hay) was \$11,871,000.

According to the 2007 Census of Agriculture, Carbon County continued to be fourth among all Wyoming counties in number of cattle and calves, thirteenth in sheep and lambs, and fourth in forage crop items.





*Photo by: Linda Fleming*

Information from the 2008 Equality State Almanac was reviewed to establish where Carbon County stands in agriculture ranking compared to the rest of the state's counties. Based on its 2006-2007 total value of livestock and crops, Carbon County ranked fifth among all 23 Wyoming counties. Approximately 11 percent of that value was the result of crop production, with the balance consisting of the value of livestock.

Although the number of farms and ranches decreased by ten from 2002 to 2007 (see table below), the total number of animals increased (93,429 in 2002 and 96,411 in 2007). In addition, while the number of farms and ranches harvesting forage was steady, the number of acres harvested jumped by 21 percent from 2002 to 2007. This may be a reflection of the drought that impacted much of Wyoming in the early 2000's.

Table 5.4 Livestock and Poultry, Carbon County, 2002 and 2007

Livestock and Poultry	Number of Farms/Ranches		Number of Animals (Total)	
	2002	2007	2002	2007
Cattle and calves	183	168	81,281	87,078
Sheep and lambs	33	33	11,939	9,060
Layers 20 weeks and older	14	19	209	273

Source: 2002 and 2007 Census of Agriculture

Table 5.5 Selected Crops Harvested, Carbon County, 2002 and 2007

Crops	Number of Farms/Ranches		Number of Acres Harvested	
	2002	2007	2002	2007
Winter wheat for grain	1	0	Not disclosed	0
Forage – hay, grass silage, and greenchop	151	152	70,979	86,140

Source: 2002 and 2007 Census of Agriculture

### Market Value of Products Sold

Looking first at the year 2002, the market value of agricultural products sold in Carbon County was \$43,142,000. Livestock, poultry, and their products were responsible for \$42,094,000 (97 percent of the total) and crops sold generated \$1,048,000 (3 percent). The average per farm was \$148,766. Nearly 30 percent of the farms had sales of \$100,000 or more; on the other hand, 25 percent had sales less than \$2,500.



*Photo by: Irene Archibald*

By 2007 the market value had grown by 39 percent to \$59,842,000. Livestock sales still constituted 97 percent of the total, for \$57,881,000, and crops accounted for three percent of the total market value or \$1,961,000.

More than half of the farms and ranches in the county generated sales of less than \$20,000 in 2007, while nearly one-third sold \$100,000 or more. This corresponds with the table illustrating the number of farms and ranches by total acres: In 2007 35 percent of the county's farms and ranches were 179 acres or smaller, and 46 percent consisted of 1,000 or more acres. The average net cash farm income of operation per farm was \$52,122. The following table presents more in depth information about farms by value of products sold.

Table 5.6 Farms by Value of Agricultural Products Sold, Carbon County, 2007

Value of Sales	Farms/Ranches	Percent
Less than \$20,000	158	55%
\$20,000 to \$99,999	42	15%
\$100,000 to \$249,999	38	13%
\$250,000 to \$499,999	19	7%
\$500,000 or more	30	10%
<b>Total</b>	<b>287</b>	<b>100%</b>

Source: 2007 Census of Agriculture

### Agricultural Operator Characteristics

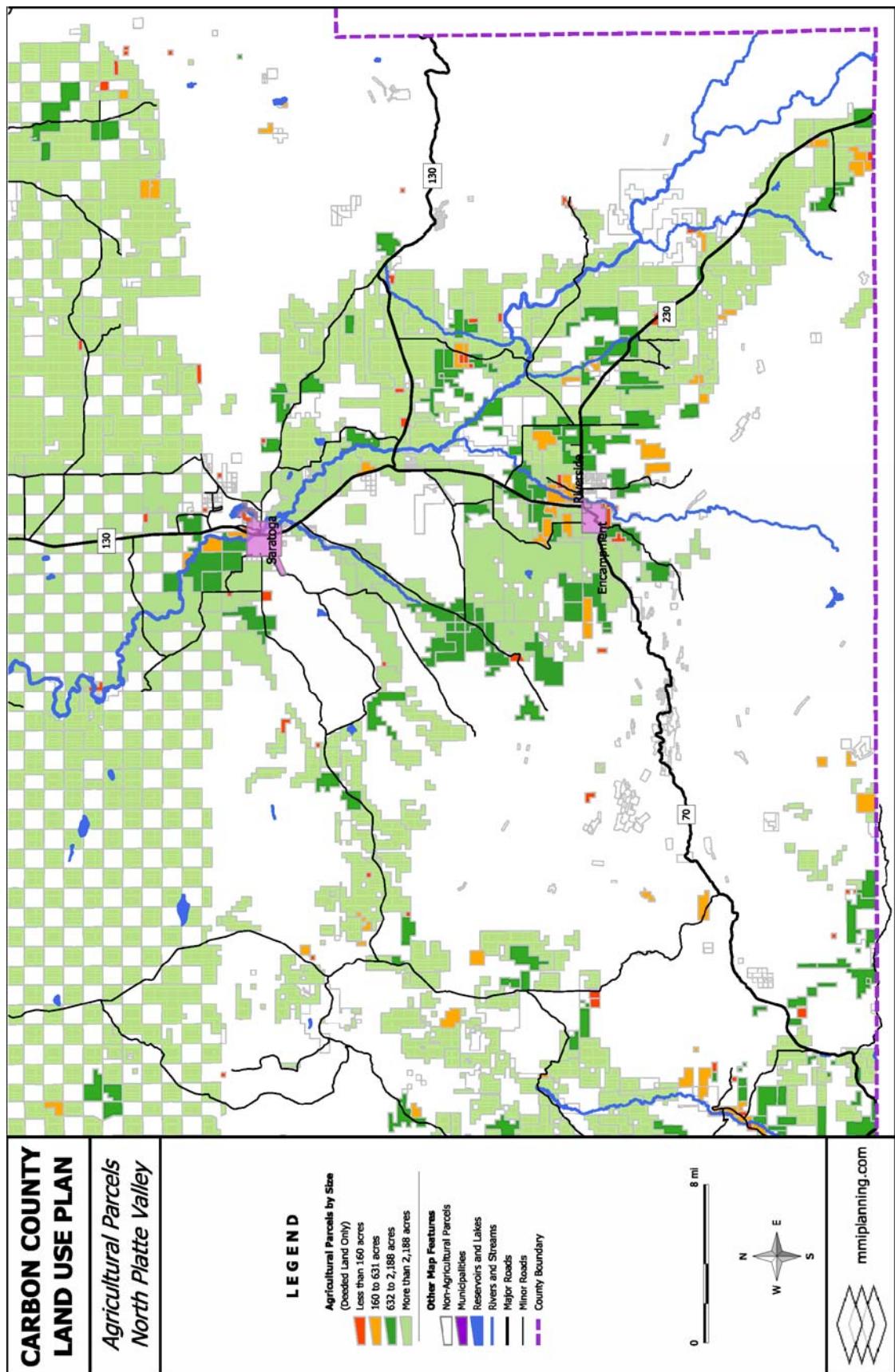
It is not uncommon for farm and ranch operators to rely on outside incomes in order to keep their operation solvent. This is the case in Carbon County, too. In 2002 slightly over one-third of the county's farm and ranch operators had other primary occupations; by 2007 that number had risen to 46 percent of all the farm and ranch operators.

Table 5.7 Farm/Ranch Operator's Primary Occupation,  
Carbon County, 2002 and 2007

Primary Occupation	2002	2007
<b>Farming/ranching</b>	191	156
<b>Other Occupation</b>	99	131

Source: 2002 and 2007 Census of Agriculture

Another recurring trend across the United States is the aging of the principal operators. From 1992 to 2002, the average age of farm and ranch operators in Carbon County was 54 years. Statistics for 2007 show that the age has crept up to 57 years. This is an issue because it is an indicator that fewer young people are stepping up to take control of farm and ranch operations. The reasons for this have been well documented and include the nature of the work (e.g. hours, labor intensive, harsh weather conditions), volatility of the market, cost of production, encroachment of suburban or urban areas, and shortages of workers.



## Irrigation

The number of irrigated farms and ranches in the county is 168. While the number of farms has remained consistent from 2002 to 2007, the total acreage in irrigation increased from 124,519 acres in 2002 to 146,547 in 2007. In 2007 over half of the irrigated acres (53 percent) were pastureland, and the balance (47 percent) was harvested cropland (hay).

The water comes from both surface and groundwater sources. For example, a report published by the US Geologic Survey noted that 'in the Saratoga Valley area, wells yielding hundreds of gallons of water per minute are used for agriculture to supplement surface-water irrigation.' (Water Resources of Carbon County, Wyoming, 2006).



*Photo by: Michael Evans*

## Farm and Ranch Income

Statistics compiled by the US Department of Commerce Bureau of Economic Analysis reveal the farm and ranch income and expenses for Carbon County. In this case, farm and ranch income includes government payments, rent, the value of inventory change, and production expenses.

In 1995, the county's total net farm income was a negative number because production expenses exceeded gross income that year. The situation was reversed by 2005, when the total net farm income for Carbon County was \$7,555,000.

Table 5.8 Gross Income, Expenses, and Net Income from Farming and Ranching, Carbon County, 1995 and 2005

[Figures in thousands \$]	1995	% of Gross Income	2005	% of Gross Income
Gross Income	46,798		55,798	
Cash Receipts from Marketing	43,652	93%	52,207	94%
Livestock and Products	39,953	85%	50,133	90%
Crops	3,698	8%	2,074	4%
Other Income	3,146	7%	3,591	6%
Government Payments	1,158	2%	684	1%
Imputed Rent and Rent Received	1,988	4%	2,907	5%
Production Expenses	54,638		55,577	
Net Income	(7,840)		221	
Value of Inventory Change	1,808	4%	7,334	13%
Total Net Income	(6,032)		7,555	

Source: Headwaters Economics, A Socio Economic Profile, Carbon County, 2007  
US Department of Commerce Bureau of Economic Analysis

### Summary and Planning Implications

Agriculture is more than simply an industry in the normal sense of the word. It is a lifestyle and a rural culture that is strongly tied to the county and Wyoming as a whole. Nothing has defined Wyoming's image more than the cowboy, and that cowboy was often found working on a ranch. Ranching and farming helped define what Carbon County is today, and it is likely that ranching and farming will continue to shape what Carbon County will be in the years ahead.

Agriculture is by far the predominant land use in Carbon County. Much of the open space and wildlife habitat valued by county residents is here because of farm and ranch operations. The Carbon County Planning Survey confirmed strong support for the promotion of continued ranching and agriculture in the county: Approximately 80 percent of all respondents agreed with that statement as a possible goal for the land use plan. An even higher number supported the potential goal to maintain open space and wildlife habitats throughout the county (about 83 percent in favor). Finally, approximately 75 percent of the respondents agreed that a possible goal should be to improve the quality of new development and minimize its impact to agriculture and the natural environment.

The number of farms and ranches has remained stable, in spite of recent drought conditions and fluctuating market values. From 2002 to 2007, the estimated market value of the land and buildings increased by 37 percent, even though the total land in farms and ranches decreased by 7 percent. Market value of agricultural production has increased 39 percent over the same time span. The county is consistently among the top producing counties in the state for cattle, sheep, and hay.

By 2007, nearly half of all farm and ranch operators claimed other occupations as their primary occupations. This represented a significant jump from 2002, when a little more than one-third had other primary occupations. This may be another indication of the rise of small farm operations consisting of fewer than 180 acres that are used for small crop production, 4-H activities, horses, llamas, and other animals kept for the enjoyment of the property owner. These do not, however, constitute full-blown ranch operations.

Forty-six percent of the county's farms and ranches have 1,000 or more acres. This number increases to 54 percent when taking into account farms and ranches with 500 or more acres, and finally to 65 percent that have an operation of 180 or more acres. So there remains a strong agricultural presence in Carbon County, and it is in the best interest of the county to protect the viability and land use interests of ranching and farming for the economic future of this industry.

Approximately 168 ranches and farms use irrigation for pastureland or cropland (primarily hay). This represents a direct benefit to the ranching community while at the same time providing county residents and visitors with the spin-off benefits of green open spaces, established wildlife habitat, added wetlands, and scenic views. Thus the maintenance of irrigated acres is paramount to the continued success of agriculture in Carbon County and to the enhancement of its natural resources.

The county's land use plan should include strategies that support agriculture. These can range from incentives that encourage residential development in close proximity to incorporated areas to policies that recognize the water rights of ranches and farms. The bottom line is agriculture is still viable in Carbon County, and this traditional land use should be maintained for the benefit of the entire county.

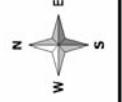
**CARBON COUNTY  
LAND USE PLAN**

*Irrigated  
Carbon County*

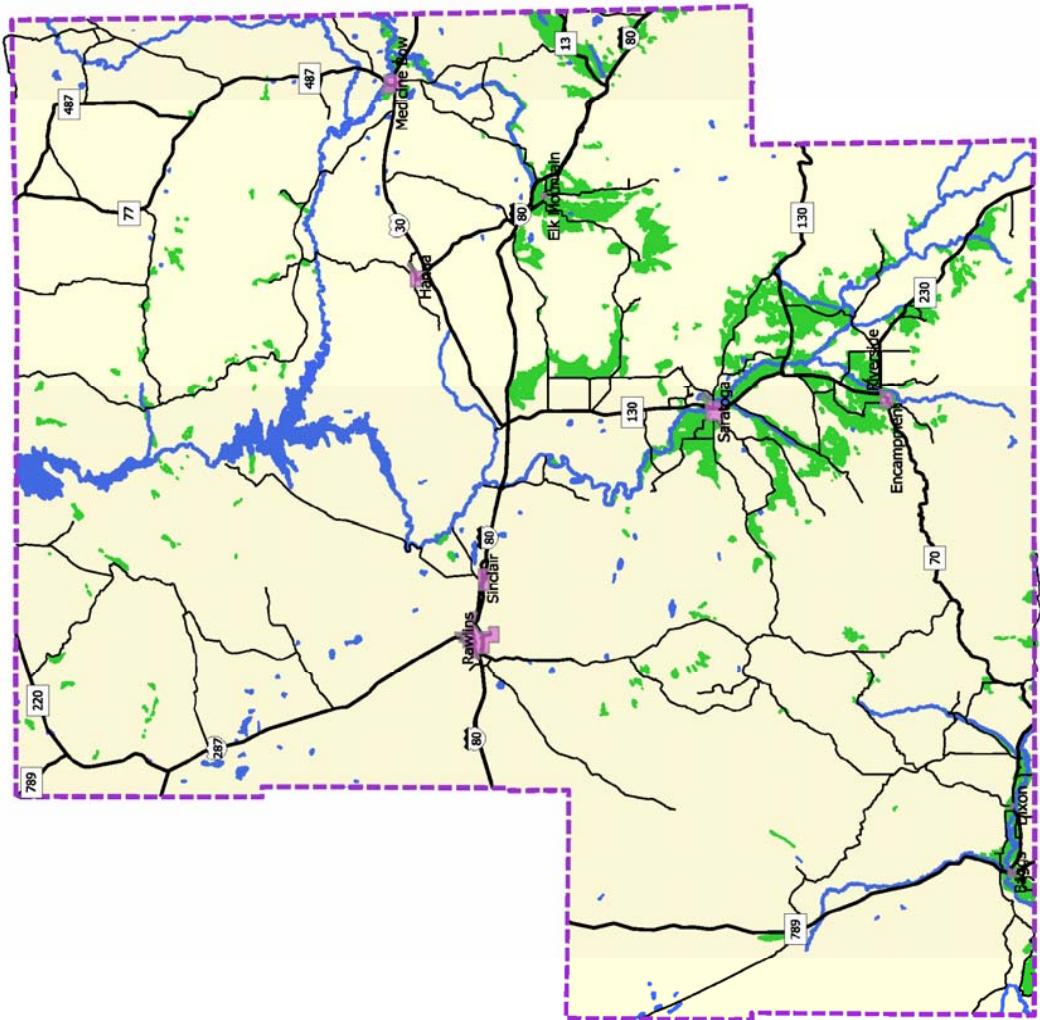
**LEGEND**

- Irrigated Lands
- Other Map Features
- Municipalities
- Reservoirs and Lakes
- Rivers and Streams
- Major Roads
- Minor Roads
- County Boundary

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## Chapter 6: Economic Conditions

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### Introduction

Carbon County is no stranger to periodic ups and downs of its local economy, caused in part by the local and regional impact of energy development. The local economy has a few stabilizing influences such as employment opportunities created by the Wyoming State Penitentiary and the presence of a major east-west Interstate. At the same time, the county tends to lag behind state trends in household income, per capita income, and average wages.

Several major energy projects are proposed in or adjoining Carbon County that may offer substantial benefits to the local labor force for more job opportunities. In addition, the projects may have a positive impact on several of the county's towns by stimulating spin-off businesses and services to support the industries and their employees. The energy projects are also likely to raise the need for temporary employee housing, increased public services, and an added work force to accommodate both direct and secondary impacts from energy development. The County should continue to become poised to address both the challenges and the opportunities these ventures will create.

### Labor Force

The available labor force can be a direct reflection of the economic and social vitality of the region. Beginning in the year 2000, Carbon County experienced a continuous decrease in the local labor force which finally turned around in 2006. The county unemployment rate has consistently been higher than the state average until 2007, when both the state and the county unemployment rate stood at 3 percent.

Table 6.1 Average Labor Force Estimates, Carbon County, 2000 – 2007

2000-2007 Wyoming Benchmark Labor Force Estimates Annual Averages								
Unemployment Rate	Wyoming							
	2000	2001	2002	2003	2004	2005	2006	2007
Unemployment Rate	3.8	3.9	4.2	4.5	3.9	3.7	3.3	3.0
Carbon County								
Labor Force Other Income	2000	2001	2002	2003	2004	2005	2006	2007
	8,094	7,984	7,794	7,654	7,560	7,630	7,865	8,100
Employment	7,757	7,629	7,434	7,227	7,221	7,323	7,594	7,845
Unemployment	337	355	360	427	339	307	271	255
Unemployment Rate	4.2	4.4	4.6	5.6	4.5	4.0	3.4	3.0

Source: Wyoming Department of Employment, Labor Market Information

An update released by the Wyoming Department of Employment indicated that the July 2008 labor force for the county stood at 8,467. Of that number, 8,204 were employed and 263 (3.1 percent) were unemployed.

#### Job Growth

The 2007 Economic Profile System for Carbon County indicated that 2,836 new jobs were created from 1970 to 2005. However, only 132 of those new positions were created between 1995 and 2005, again displaying the impact of past energy booms.

Proprietors (sole proprietorships, partnerships, and tax-exempt cooperatives) resulted in 62 percent of the new jobs that occurred from 1970 to 2005. By 2005, nearly 73 percent of the total full-time and part-time employees were in wage and salary jobs. The balance were proprietors. Of those, 300 were farm-related.

#### Number of Establishments

The US Census Bureau report, County Business Patterns, provides information about the number of establishment by industry and employment size. A comparison was made between the years 1998 and 2005 (the most recent report) to understand the changes that are occurring in the County's economy, and the results are summarized below. It should also be noted that the year 2006 was the turning point in local growth, and it is conceivable that further shifts have occurred since the 2005 report was completed.

The total number of establishments changed very little between 1998 and 2005. What did change was the number of establishments by employment size. In 1998, no businesses had more than 249 employees; by 2005, two businesses – one in transportation and warehousing, the other in health care and social assistance – did.

Table 6.2 Number of Establishments by Employment-Size,  
Carbon County, 1998 and 2005

Year	Total Etab.	1-4	5-9	10-19	20-49	50-99	100-249	250-499
1998	566	359	107	59	28	9	4	0
2005	564	352	120	49	33	6	2	2

Source: County Business Patterns, US Census Bureau, 2005

The industries that decreased by three or more total establishments between the two timeframes include:

- Forestry, fishing, hunting and agriculture support
- Utilities
- Manufacturing
- Wholesale trade
- Retail trade
- Information
- Accommodation and food services

Those industries which have gained three or more total establishments are:

- Construction
- Transportation and warehousing
- Health care and social assistance
- Arts, entertainment and recreation
- Other services

While the number of establishments did not significantly change from 1998 to 2005, the total number of employees increased within that same time period by 332 persons, or nearly 8 percent. The largest gains occurred in the utilities, construction, transportation and warehousing, health care and social assistance industries.

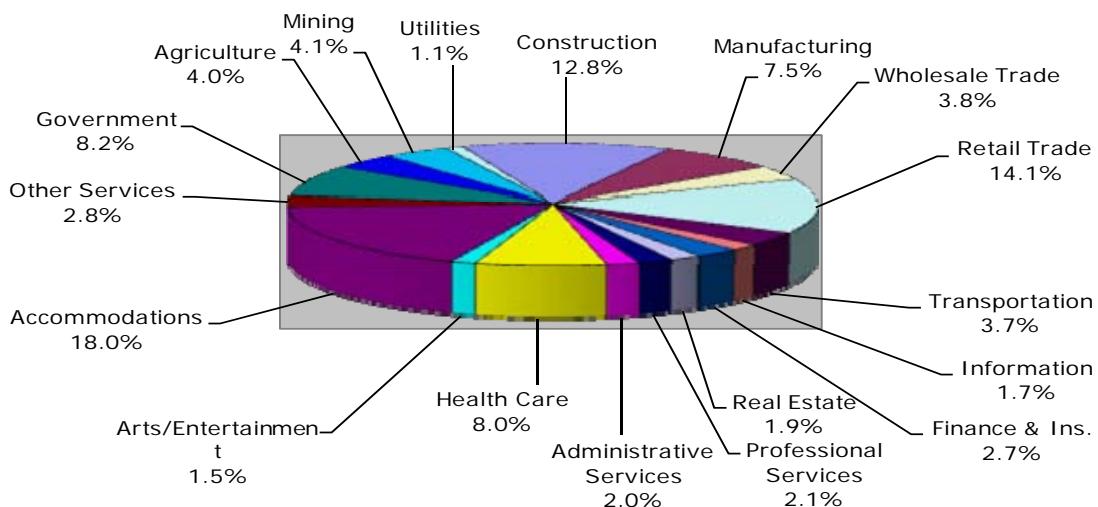
### Earnings and Per Capita Income

References in the 2007 Economic Profile System for Carbon County indicate that average earnings per job, adjusted for inflation, fell from \$35,652 in 1970 to \$31,183 in 2005. This figure is lower than the State of Wyoming average of \$37,967.

The 2005 per capita income (defined as total personal income divided by population) was \$30,961 for Carbon county and \$37,305 for Wyoming. It should be pointed out that total personal income includes non-labor income sources such as 401(k) plans or transfer payments. These non-labor sources of income can cause the per capita income to rise, even though people may be earning less on the job.

### Industry Distribution

The pie chart below was prepared by the Wyoming Department of Employment Research and Planning to illustrate the county's 2005 employment by industry distribution.



Source: Covered Employment and Wages, Fourth Quarter 2005.

The information above corresponds with the employment table which follows, also prepared by the Wyoming Department of Employment. By comparing the pie chart and the employment table, it can be seen that two of the most sizable industries in the county – accommodations and retail – are also among those having the lowest average weekly wage. These two industry categories equate to 32 percent of the county's employment. The two industries with the highest average weekly wages were manufacturing and mining, which together represented nearly 12 percent of local employment.

Table 6.3 Average Monthly Employment and Weekly Wage by Industry

Industry	Average Monthly Employment	Average Weekly Wage	% of State Average Weekly Wage
Agriculture	194	\$530	91.1%
Mining	203	\$919	73.7%
Utilities	54	\$896	68.8%
Construction	640	\$777	103.3%
Manufacturing	373	\$1,097	136.1%
Wholesale Trade	188	\$872	95.4%
Retail Trade	702	\$424	96.8%
Transportation	183	\$723	99.7%
Information	84	\$503	82.2%
Finance & Insurance	133	\$632	76.8%
Real Estate & Rental	96	\$379	56.9%
Professional Services	106	\$778	81.6%
Administrative Services	101	\$413	91.2%
Health Care	400	\$588	85.7%
Arts/Entertainment	74	\$423	130.2%
Accommodations	895	\$238	90.8%
Other Services	144	\$455	94.2%
Government	410	\$569	91.8%
<b>Total</b>	<b>4,980</b>	<b>\$623</b>	<b>88.7%</b>

Source: Covered Employment and Wages, Fourth Qtr. 2005

Employment and wage information for the year 2007 was received from the Carbon County Economic Development Corporation (CCEDC). Although it is not available by industry, the data is another indication of the improvement of the local economy which began in 2005.

The third quarter of the year (the months of July, August, and September) saw the largest number of persons employed within the county, which is typical as summer is the time of year when construction activities are at their peak. This industry normally has a positive, seasonal impact on employment numbers.

Table 6.4 Employment and Wages, Carbon County, 2007

Quarter	Average Monthly Employment	Total Wages	Average Weekly Wages
First Quarter	7,100	\$61,891,720	\$671
Second Quarter	7,614	\$68,876,383	\$696
Third Quarter	7,903	\$72,519,123	\$706
Fourth Quarter	7,828	\$82,997,987	\$816

Source: U.S. Bureau of Labor, Carbon County Economic Development Corporation

CCEDC further noted that the average monthly employment in the county was 7,752 for the first quarter of 2008. By the second quarter of 2008 the average monthly employment stood at 8,074.

Another indicator of the disparity between goods-producing and service-providing wages is provided by the Bureau of Labor Statistics Quarterly Census of Employment and Wages. In 2005, the average annual private and public wage stood at \$28,903. Goods-producing sectors (e.g., natural resources and mining, construction, manufacturing) had an average annual wage of \$40,359. In contrast, service-providing sectors (for example education and health services; leisure and hospitality; trade, transportation, and utilities, financial) averaged an annual wage of \$21,969. Public employees (federal, state, and local levels) averaged \$32,544. This information is summarized in the table that follows.

Table 6.5 County Wages and Employment, Carbon County, 2005

	Employment	Percent of Total	Average Annual Wages
<b>Total Private and Public</b>	<b>6,533</b>	<b>100%</b>	<b>\$28,903</b>
Total Private	4,569	70%	27,332
Goods-Producing	1,333	20%	40,359
Service-Providing	3,237	50%	21,969
Total Public	1,964	30%	\$32,544

Source: Bureau of Labor Statistics Quarterly Census of Employment and Wages, 2005

The sectors that generated average annual wages that were 20 percent or more than the wages for all sections included:

- Construction - \$35,822
- Federal Government - \$43,964
- State Government - \$37,776

The sectors with the lowest wages which were 20 percent or less than the overall average annual wage were:

- Leisure and Hospitality - \$11,679
- Other Services - \$21,434

This data does not include proprietors or the value of benefits, which can be substantial. The highest paying sector was the Federal Government, which accounted for nearly 5 percent of the County's total employment. The largest employment sector was Local Government, with nearly 19 percent of total employment. Public sector wages were greater than the private sector wages by 19 percent.

#### Earnings by Gender

The Wyoming Department of Employment generated information regarding the mean (average) earnings by gender for the years 2000 and 2006. In both years, women earned approximately 51 percent of the average wage for men. In 2000, Carbon County women had an average wage of \$13,441 while the county's men averaged \$26,238. By 2006 the average wage for women stood at \$18,982; for men it was \$37,107. One reason for the disparity in average wages involves the high number of women who are employed in the service-producing sectors, which also tends to be the lowest paying employment sector.

The age group that enjoyed the greatest earning power for both women and men was the 45-54 year olds. The average wage for women between those ages was \$25,466 and for men it was \$48,483. The next highest earning power was experienced by those between the ages of 55 and 64: \$22,976 for women and \$47,880 for men.

#### Potential Energy-Related Economic Growth

The Population Characteristics chapter described several energy-related projects that are in various stages of development. They will result in local and regional economic development in the form of job growth in energy industries and businesses that cater to energy development, as well as secondary impacts for service industries, trades, and government to serve the increased population. Briefly, the three projects that have the potential for the most long-term impact on the County are the Atlantic Rim project, Medicine Bow Fuel and Power project, and the Continental Divide-Creston project.

The Atlantic Rim project is for the development of 2,000 natural gas wells and will have a 40-year life. At its peak in the fifth year of drilling, there may be 1,488 direct, indirect, and induced employment opportunities. Thirty percent of that total will be temporary



*Photo by: Michael Evans*

employees, and the balance will be employees that are hired locally or are immigrants. About 575 longer-term workers will live in Rawlins, Baggs, or Dixon during the peak year (potentially year 2012 or 2013, with the number of longer-term workers quickly decreasing by Year 6 and on to the end of the project.

The Medicine Bow Fuel and Power project anticipated 2,000 temporary workers for the construction of a coal-to-liquids plant and 307 temporary workers for the construction of a coal mine. Peak construction should last 11 months.

Approximately 450 permanent jobs are expected to be created for both operations and another 374 indirect jobs will be created as well.

Continental Divide-Creston involves the drilling of nearly 9,000 natural gas wells in an area west of Rawlins and in the vicinity of the Carbon/Sweetwater county line. This project's Environmental Impact Statement has not been completed, so anticipated workforce and local population estimates are not available.

Another source of energy development has continued to be a local presence: wind farms. A summary of the wind farms is as follows.

#### *Pending Approval*

With its reputation as a reliable, strong source of wind power, Carbon County is likely to continue to attract wind industry projects. There has been general support for the development of alternative energy and the creation of new jobs, although the average wind farm is not regarded as a significant source of employment opportunities. At the same time, as new proposals for wind farms have surfaced throughout the county, local residents and officials have begun to express concerns about the impacts of housing temporary construction workers, emergency service provision, trash disposal, road access, and drive times to sites.

- PacifiCorp Energy has a wind farm under review by Carbon County that will produce 188 megawatts of power in two phases (the High Plains and McFadden Ridge). The project is located near McFadden, Wyoming, east of State HWY 13. The total project area will be 11,000 acres. The projects will create over 260 construction jobs during peak construction, and 19 permanent full-time jobs during the operational stages. The Wyoming Industrial Siting Council issued a conditional use permit for the wind projects on September 11, 2008.



*Photo by: Doug Wasinger*

- A new wind farm with 1,000 turbines is proposed as the Chokecherry and Sierra Madre wind energy project, although it has not come before the Carbon County Planning and Zoning Commission yet. The wind farm development project will contain approximately 154 square miles located south of Sinclair and the Rawlins areas. The project will be located on both private lands and BLM lands. The Anchutz Corporation is working with BLM to obtain proper permits. If approved, this will be the largest wind farm in the United States.

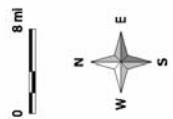
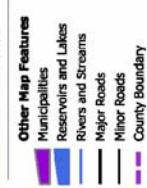
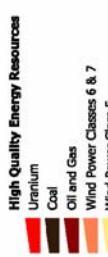
*Approved by Carbon County*

Several wind farms were approved by the Carbon County Planning and Zoning Commission since the 1990's. The date of their approval and main points about the facilities are highlighted below.

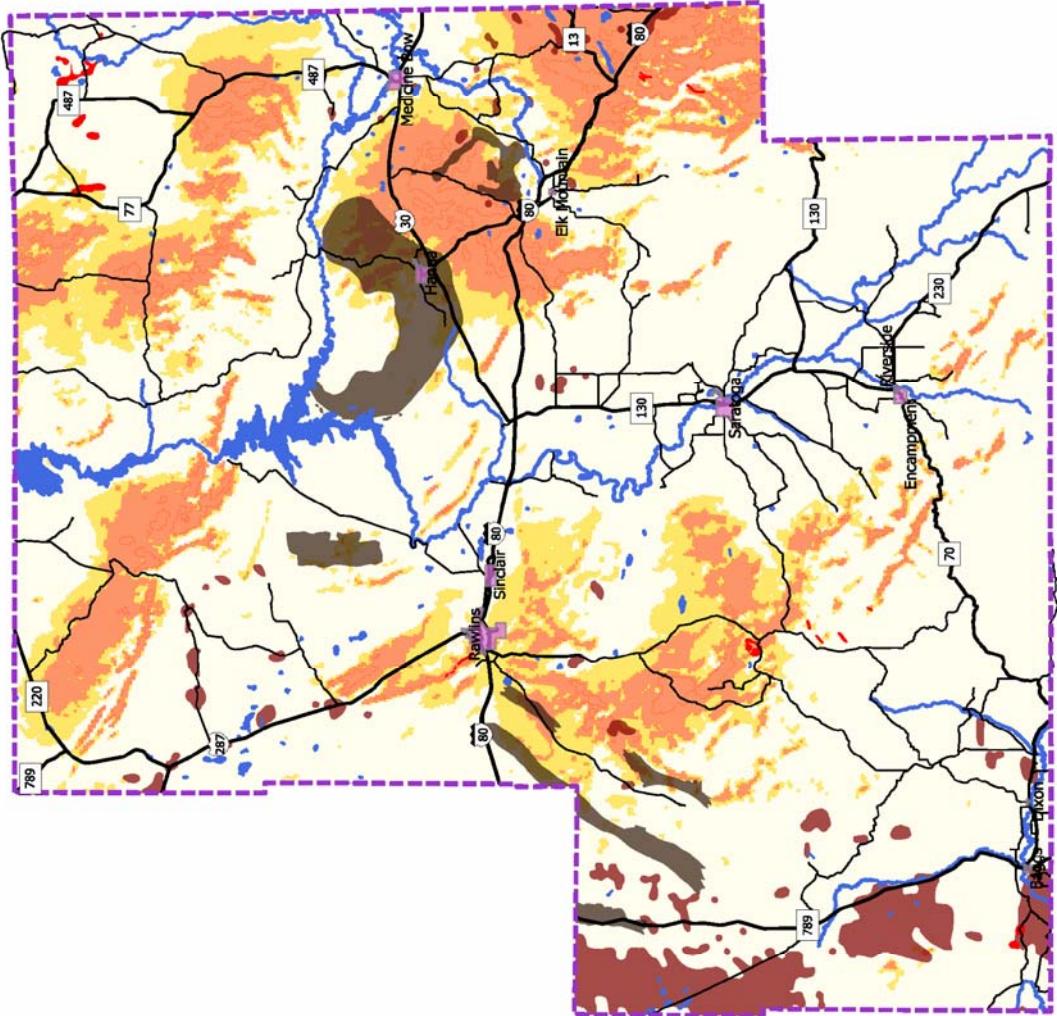
- Medicine Bow Energy had a wind farm facility for 10 turbines approved on April 5, 1994. The project is located five miles southwest of the Town of Medicine Bow near Carbon County Road #3 in the Carbon Basin area. This facility was expanded by 25 wind turbines to supplement the original 10 wind turbines on April 4, 1999.
- The Foote Creek Rim Wind Farm Facility was approved on May 6, 1997 and September 2, 1997. The project has approximately 670 to 1,000 wind turbines with a goal to construct a 500 megawatt wind energy facility. The project is located near Arlington, north of I-80.
- The Simpson Ridge Wind Farm Facility obtained approval on September 2, 1997. The project is located approximately six miles northwest of Elk Mountain near the intersection of Wyoming Highway 72 and Carbon County Road #115, Simpson Ridge.
- On April 4, 2000, the Seven Mile Hill Wind Farm Facility was approved. The project encompasses 77 to 100 wind turbines that can generate roughly 1.0 to 1.3 megawatts. The site is located approximately six miles northeast of Hanna near Highway 30 and Carbon County Road #121, Seven Mile Ranch.
- A wind farm consisting of 50 wind turbines with 1 megawatt was approved on February 6, 2001. The project is located three miles north of the Town of McFadden and five miles west of Rock River.
- A wind farm of 14 wind turbines with 1.5 megawatts was granted on July 3, 2001. The project is located approximately three miles east of McFadden adjacent to the Carbon/Albany county lines.
- The Clipper Wind Farm Facility received approval on November 13, 2004 for one wind turbine at 2.5 megawatt. The project is located one mile south of Elk Mountain on Medicine Bow Road and five miles southwest of the Town of Medicine Bow.
- The Pine Draw Wind Farm Facility was approved on July 11, 2006. The project consists of 125 wind turbines with a nameplate capacity of 187.5 megawatts. The project is located five miles north and west of Medicine Bow; north of Highway 30 and generally west of Carbon County Road #121.

**CARBON COUNTY  
LAND USE PLAN**  
*Energy Resources  
Carbon County*

**LEGEND**



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In addition to the above projects, PacifiCorp has announced plans to build more than 1,200 miles of transmission lines through several states, including a proposed route through Carbon County. The Gateway West Transmission Line Project has undergone public scoping meetings and is currently going through the environmental impact statement and approval process with the US Bureau of Land Management. The final transmission line route through the county will be determined upon the conclusion of this process.

#### Local Economic Development Agencies

Several organizations (formal and ad hoc) have been identified that focus on Carbon County's economic development. They include:

- Carbon County Economic Development Corporation
- Rawlins-Carbon County Chamber of Commerce
- Saratoga Platte Valley Chamber of Commerce
- Concerned Citizens for the Betterment of Hanna
- Rawlins Wyoming Main Street Program
- Town of Encampment local citizens' group
- Town of Baggs local citizens' group

In addition to the above, the Carbon County Visitor's Council provides indirect support for economic development.

#### Conclusion

Carbon County's labor force experienced a steady decline in number throughout the first half of the 2000's. By 2005, that trend had reversed and the labor force has grown on a yearly basis through 2008. Proprietorships have risen in number in recent years, highlighting the entrepreneurial nature of county residents.

The number of business establishments has remained fairly steady. Those industries that increased in number between 1998 and 2005 related to construction; transportation and warehousing; health care and social assistance; arts, entertainment and recreation; and other services. Those industries that decreased between that time span included the industries of forestry, fishing, hunting and agriculture support; utilities; manufacturing; wholesale trade; retail trade; information; accommodation and food services. Note that some of these industries may have since increased in number; for example, new motels and hotels have been constructed since 2005.

When adjusted for inflation, average earnings per job actually decreased for local employees between the years 1970 and 2005. The 2005 average earnings was \$31,183 in Carbon County. By comparison, the State of Wyoming average was \$37,967.

Local employment by industry for the year 2005 illustrated that the top employment sectors were in accommodations, retail, and construction. Accommodations and retail represented 32 percent of local employment; these sectors also have the lowest average weekly wage. The highest average weekly wages were in manufacturing and mining and represented almost 12 percent of local employment. This illustrates the relative scarcity of high paying jobs and the dominance of low paying jobs in the county.

Taking a look at the yearly average for 2005, the average annual private and public wage in Carbon County was \$28,903. The goods-producing sectors that include natural resources and mining, construction, and manufacturing had an average annual wage of \$40,359. Service-providing industries such as education and health services, leisure and hospitality, or trade averaged \$21,969. Public employees averaged \$32,544.

Women in Carbon County consistently earn 51 percent of the average wage of men. This is partially a reflection of the number of women employed in low-paying jobs in the service-providing sectors.

Pending projects in energy development should be closely monitored, as most have a fairly short life span for permanent employment opportunities. For example, the Atlantic Rim project is anticipated to have its peak year in 2012 or 2013. At its peak, the project anticipates 1,488 direct, indirect, and induced employment opportunities. About 575 of this total will be long-term workers. However, that number is expected to quickly decrease beginning in 2014 to the end of the project (40 years total). Meanwhile, Medicine Bow Fuel and Power envisions a need for 2,307 temporary workers during the construction of a coal-to-liquids plant and coal mine. While the county must pay attention to the short-term needs of this temporary population, it is also important not to over-build for what is likely to be a transitory population.

Wind farms continue to be a local economic development, based on their employment needs during construction phases and for ongoing maintenance and upkeep. The county could be the site of the largest wind farm in the United States, and with it will come both positive and negative impacts that must be addressed.

In short, the county should continue to take steps to diversify and grow the local economy by attracting better paying jobs that have long term staying power. Work by the local economic development agencies will be essential in attracting not only new employment opportunities, but also a work force to fill those positions.

## Chapter 7: Future Land Use

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### Plan Map Series

Mapping was a large part of the Inventory that was compiled for the Land Use Plan. All the maps produced in the Inventory are together call the Plan Map Series.

Maps were developed for 19 different themes (the main topic or subject of a map). As part of the process of making the maps, certain statistical information was abstracted from the maps. The different map themes are listed below along with statistical information.

For each map theme, a county-wide map was prepared as well as more detailed maps for major areas of the county (Little Snake Valley, Greater Rawlins Area, Medicine Bow Basin, North Platte Valley, and Areas Near Municipalities). Consequently, there are well over 100 separate maps in the Plan Map Series.

Due to the considerable number of maps and their large sizes, only a sample of the maps is presented in the Land Use Plan. The entire set of maps can be viewed on the project website, [www.carboncountyplan.info](http://www.carboncountyplan.info).

Many of the maps were based on the landowner coverage (a coverage is a digital geographic data set) published by Carbon County GIS with topology corrected by Will Faust, a GIS specialist. Coverage includes land parcels with no attributes (no land use, ownership, or other information) constituting about 4 percent of the land area of the coverage.

Below is a description of all the maps in the Plan Map Series as well as relevant statistical information derived from each map.

**Agricultural Land Use:** Represents all deeded land used for agricultural production, as determined by the Carbon County Assessor's records.

Total Number of Agricultural Parcels:	504
Total Acres in Agricultural Use:	1,849,617 acres
Average Parcel Size:	3,670 acres

**Agricultural Parcel Size:** Shows where agricultural land remains in large tracts and where it has been broken into small tracts.

1/4 of Parcels Smaller than	160 acres
Median Parcel Size	632 acres
3/4 of Parcels Smaller than	2,188 acres
Largest Parcel	224,557 acres

Irrigated Land: Shows all irrigated land in the county, based on Wyoming State Engineer's Office data.

Total Acreage of Irrigated Land	166,210	acres
Percent of County Land Area	3.3	%

Bedrock Geology: This map series shows the bedrock geology of Carbon County.

Big Game Habitats: Represents the crucial habitats of big game species in the county, based on Wyoming Game and Fish Department data.

Species	Acres
Antelope	957,260 acres
Carbon Sheep	24,924 acres
Elk	421,598 acres
Mule Deer	670,273 acres

**CARBON COUNTY  
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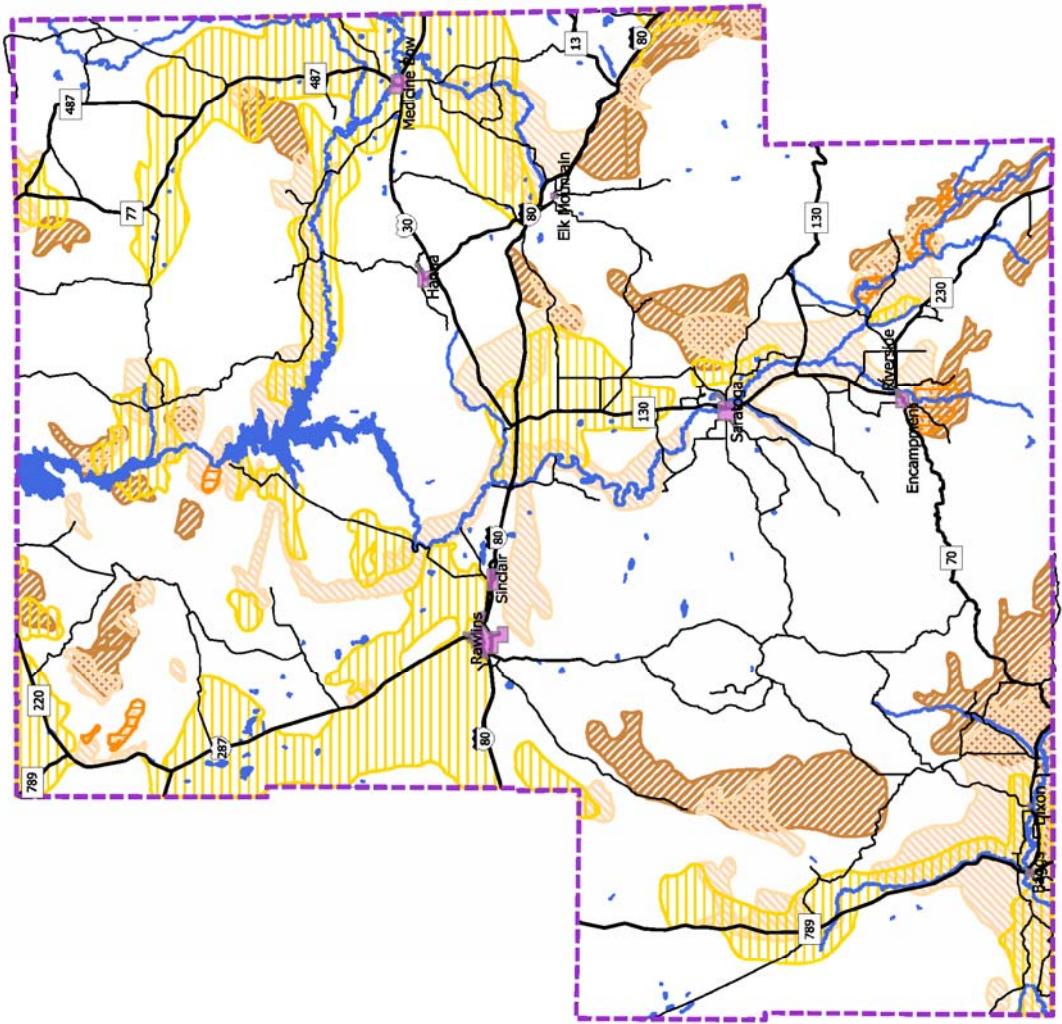
*Big Game Habitat  
Carbon County*

**LEGEND**

Big Game Habitat Carbon County		Other Map Features	
Elk		Municipalities	
Big Horn Sheep		Reservoirs and Lakes	
Antelope		Rivers and Streams	
Mule Deer		Major Roads	
		Minor Roads	
		County Boundary	



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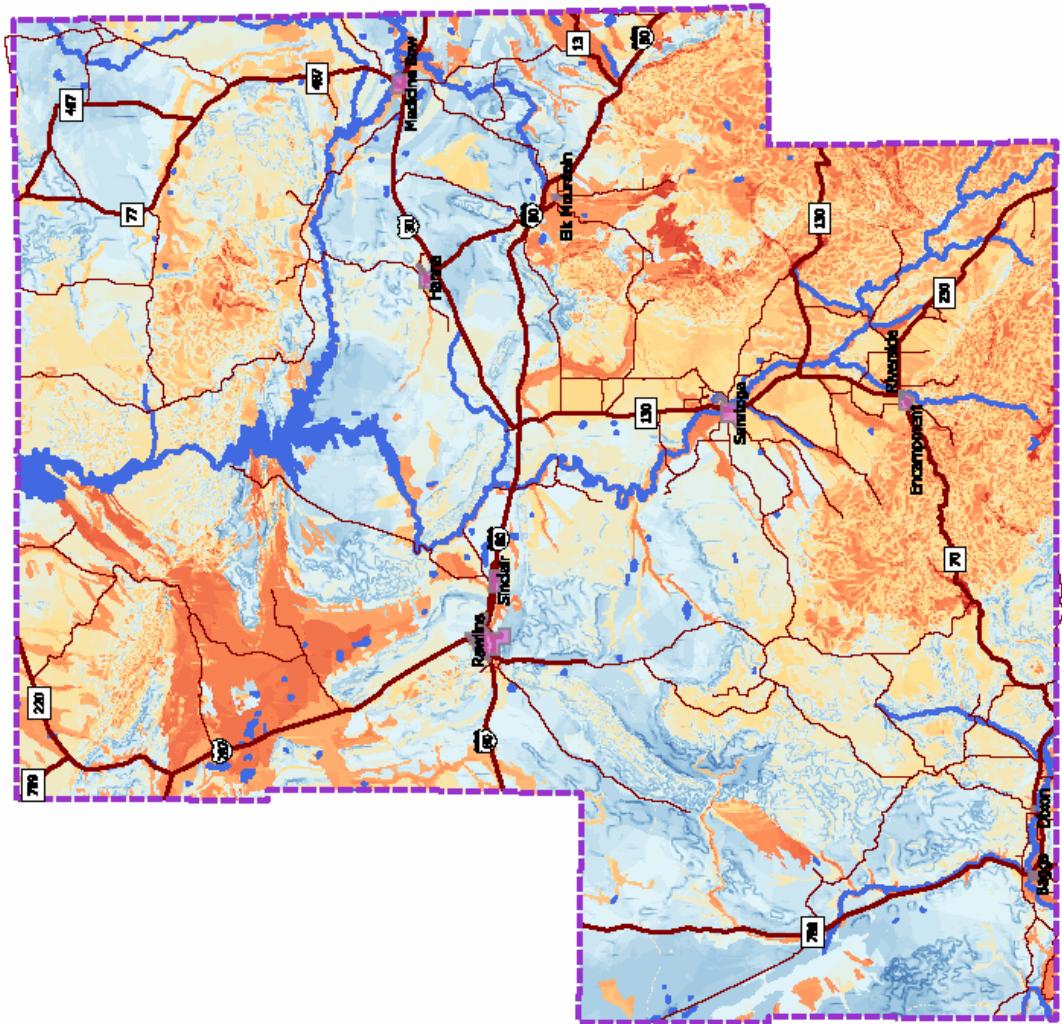


Flood Plains: Represents the locations of the 100-year flood plains in the county, based on Federal Emergency Management Agency data.

Total Acreage of Flood Plains	31,415	acres
Percent of County Land Area	0.6	%

Groundwater Sensitivity: Indicates the locations of areas based on the sensitivity of the groundwater below to pollution on the land surface above, based on Wyoming Department of Environmental Quality data.

<b>Sensitivity Rating</b>	<b>Acres</b>
Low Sensitivity	382,518 acres
Medium-Low Sensitivity	1,423,313 acres
Medium-Low Sensitivity	1,461,607 acres
Medium-High Sensitivity	1,022,606 acres
High Sensitivity	758,073 acres



**CARBON COUNTY  
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**Groundwater Sensitivity**  
Carbon County

**LEGEND**

Groundwater Sensitivity  
High sensitivity

Low sensitivity  
(not subject to surface pollution  
and/or not likely to cause  
air or water contamination)

Other Map Features

Highways

Rivers and Lakes

Minor Roads

County Boundary



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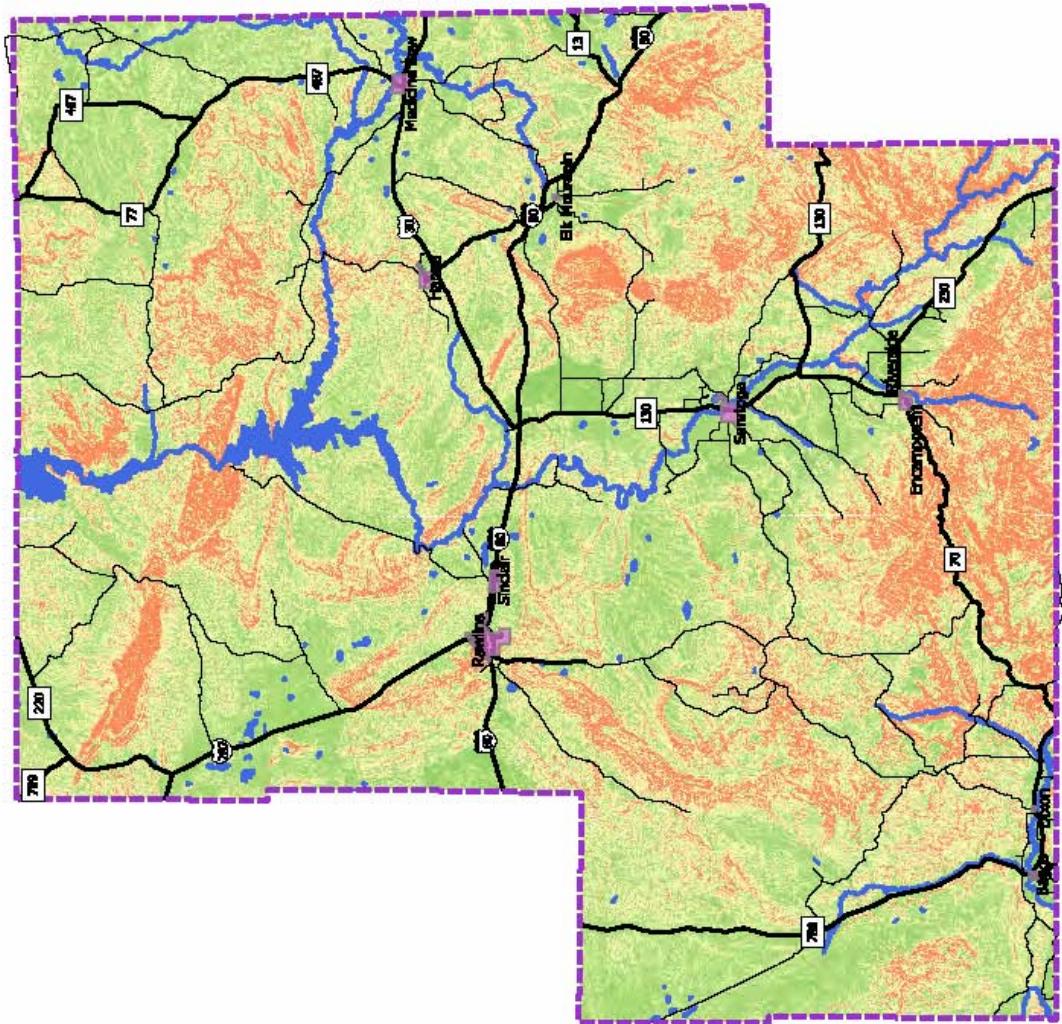
Geohydrologic Setting: Represents the general availability of groundwater, based on Wyoming Department of Environmental Quality data. Ratings range from 1 to 8 with the lowest numbers representing low- or no-yield aquifers and higher numbers representing the high-yield aquifers. The closest aquifer to the land surface is the one that is rated. (Higher rating means aquifers have higher water yields.)

<b>RATING</b>	<b>ACRES</b>
1	655,665 acres
2	754,137 acres
3	2,481,290 acres
4	75,652 acres
5	356,389 acres
6	42,086 acres
7	228,360 acres
8	494,882 acres

Land Slope: Presents the slope of land in percent (rise over run) of all land in the county.



*Photo by: Michael Evans*

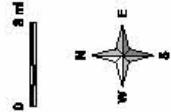


**CARBON COUNTY  
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*Slope of Land  
Carbon County*

**LEGEND**

<b>Slope of Land</b>
25 percent and greater
10 to 25 percent
0 to 10 percent
<b>Other Map Features</b>
Major Roads
Minor Roads
Waterways and Lakes
Rivers and Streams
County Boundary



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Wetlands: Represents the locations of wetlands in the county, based on the National Wetlands Inventory.

Total Acreage of Wetlands	144,263	acres
Percent of County Land Area	2.8	%

Road Network: Shows the location and type of roadways in the county, based on Carbon County data.

Services Efficiency: This map series represents the efficiency in providing essential public services to different locations based on distance from public schools, fire protection, hospitals, and law enforcement. The maps illustrate the concept that it is usually more cost-efficient to provide public services at locations close to service centers.

Current Land Use: Represents the current land use of deeded land in the county, based on Carbon County Assessor data.

Land Use	No. of Parcels	Acres	% of Deeded Land
Agriculture	1,324 parcels	1,849,689 acres	92.9%
Vacant Commercial	41 parcels	2,055 acres	0.1%
Commercial	44 parcels	9,479 acres	0.5%
Vacant Industrial	27 parcels	13,698 acres	0.7%
Industrial	2 parcels	59 acres	0.0%
Vacant Residential	441 parcels	21,845 acres	1.1%
Residential	514 parcels	14,457 acres	0.7%
Local Tax Exempt	8 parcels	9,036 acres	0.5%
Unknown	865 parcels	71,119 acres	3.6%

Land Parcel Sizes: Shows where deeded land remains in large tracts and where it has been broken into small tracts, based on Carbon County Assessor data.

Smallest Parcel	0.1 acre
1/4 of Parcels Smaller than	9.7 acres
Median	53.3 acres
3/4 of Parcels Smaller than	384.9 acres
Largest Parcel	13,528.3 acres

Land Surface Management: Represents the surface management status (federal lands, state lands, deeded lands, etc.) of all land in the county.

AGENCY	ACRES	PERCENT OF COUNTY LAND AREA
Army Corps of Engineers	2,006	0.0%
Bureau of Land Management	2,047,857	40.5%
Bureau of Reclamation	35,160	0.7%
Forest Service	626,014	12.4%
US Fish & Wildlife Service	2,222	0.0%
State	346,530	6.9%
Private	1,991,582	39.4%
<b>TOTAL</b>	<b>5,051,371</b>	<b>100.0%</b>

Land Tenure: Represents which lands are owned by local and non-local owners, based on Carbon County GIS data.

OWNER ADDRESS	NUMBER OF PARCELS	ACRES OF PARCELS	PERCENT OF ACREAGE
Inside county	1,281	859,363	44%
Outside county	1,090	1,039,425	53%
Unknown	861	71,095	4%

Population Density: Gives the number of residents per square mile in all locations in the county. Less than one person per square mile is the traditional definition of "frontier" and less than 6 persons per square mile corresponds to F. J. Turner's 1893 definition of frontier. (Data year 2000; includes municipalities).

PERSON PER SQUARE MILE	CENSUS BLOCKS	POPULATION	ACRES
0.0	5,556	0	4,273,945
0.1 to 0.9	67	280	558,089
1.0 to 6	111	627	208,758
6.1 to 60	107	1,118	50,055
61 to 120	29	145	1,094
121 to 600	131	1,066	2,402
Over 600	592	12,325	2,600
<b>TOTALS</b>	<b>6,593</b>	<b>15,561</b>	<b>5,096,943</b>

## Future Land Use Map

### *About the Future Land Use Map*

The Future Land Use Map is the County's visual guide to future planning. The map is a geographic expression of this plan's Goals and Planning Strategies and is based on the information and the other maps collected in the inventory phase of the planning process. The Future Land Use Map represents an ideal land use pattern for the future but it is not a prediction of the future.

The Future Land Use Map shows six types of areas, each representing a different type of development and future land use. The six types of areas are:

- Town Expansion areas -- where the County's incorporated towns are likely to annex and expand to accommodate future town growth.
- High Intensity Rural areas -- where the highest densities of rural residential development, limited commercial development, and public uses should occur.
- Medium Intensity Rural areas -- where moderate density rural land use patterns will occur with land uses including agriculture, rural residential, limited commercial, public uses, outdoor recreational uses, and carefully-sited industrial uses.
- Low Intensity Rural areas -- where agriculture will be the predominant land use and be accompanied by low density residential use, and commercial, public uses, outdoor recreational uses, and carefully-sited industrial uses.
- Oil, Gas, and Mining areas -- where oil and gas extraction and commodity mining will be the predominant land uses.
- Sensitive Groundwater areas -- where groundwater resources are particularly sensitive to contamination by activities on the land surface and consequently land uses in such areas should be designed and conducted with extra care.



*Photo by: Doug Wasinger*

More detailed explanations of each of these six area types are presented in the table on page 78.

By mapping these future land use area types, the Future Land Use Map shows the ideal locations for these future land uses. There are several reasons why the location of future development is a matter of County concern:

- First, the County and other public entities can provide many public services more efficiently and at lower cost when development concentrated rather than dispersed.
- Secondly, the incorporated towns will be more prosperous when growth occurs in and near them.
- Finally, when rural areas are not disrupted by development, the county's scenic views, wildlife habitats, and agricultural lands can be retained.

Thus, the main themes of the Future Land Use Map can be summarized as follows:

- Plan to retain agriculture, scenic areas, wildlife habitats, water quality in rural areas through low density land use.
- Promote residential and commercial development in and around the incorporated towns.
- Limit the fiscal impacts of development on public budgets by having low density land uses in remote areas and higher density development in or near towns.

#### *Process of Developing the Future Land Use Map*

The Future Land Use Map was developed using a process called the Land Suitability Analysis (LSA). LSA is a land use planning method that compares characteristics of each land section or quarter-section in the county. Characteristics include such things as whether the land is irrigated or not, the steepness of the terrain, and many other factors. LSA looks at all these characteristics and evaluates the suitability of each section or quarter-section in terms of its suitability for development and conservation.

Prior to conducting the LSA, the consultant prepared a number of maps called the Plan Map Series which were described at the beginning of this chapter. The Plan Map Series provides information on characteristics of the land that can or should influence the county's future development pattern. The land characteristics included in the LSA are the same as in the Plan Map Series.



Photo by: Linda Fleming

## The 17 Maps of the Plan Map Series

MAP THEME	DESCRIPTION
<b>Agricultural Themes</b>	
Agricultural Land Use	Land parcels used for agriculture
Agricultural Parcel Size	Larger agricultural parcels (100 acres or more)
Irrigated Lands	Irrigated lands according to State Engineer
<b>Infrastructure Themes</b>	
Road Network	Federal, state highways, and county roads
Services Efficiency	Efficiency in providing essential public services -- distance from schools hospitals, law enforcement, fire protection, and hospitals
<b>Land Use Limitation Themes</b>	
Big Game Habitats	Antelope, Carbon Sheep, Elk, and Mule Deer
Floodplains	100 year floodplains
Geohydrologic Setting	Availability of groundwater
Groundwater Sensitivity	Sensitivity of aquifers to surface pollution
Slope of Land	Steepness of land
Wetlands	National wetlands inventory
<b>Land Status Themes</b>	
Current Land Use	Current use of land parcels
Land Surface Management	Deeded and various state and federal agency management
Parcel Density	Number of land parcels and subdivision lots per quarter section
Population Density	Number of residents per quarter section (year 2000)
Zoning (Generalized)	Current County Zoning (generalized)

The LSA method was used to combine the maps of the Plan Map Series to produce a single composite map. The composite map shows all areas of the county rated in terms of suitability for future development and conservation.

In combining the maps, map features that support development, such roads, were considered "positive" and their presence would raise an area's rating (higher rating meaning the area was relatively better suited for development). Map features that limit development, such as floodplain, were considered "negative" and their presence would lower an area's rating (lower rating meaning the area was relatively better suited for conservation). Map ratings for the 16 maps in the series were added together to produce the composite map.

The Land Use Plan Steering Committee decided to "weight" each map theme before recombining them. The Steering Committee rated each map in terms of its importance to planning in Carbon County. These weights were used to produce another composite map, a map that was significantly different than an "un-weighted" map version.

## Steering Committee Map Weights

Weighted on a Scale of 1 to 5

Higher Number Equals Greater Map Importance

Map Theme	Average Weight
Irrigated Lands	4.6
Groundwater Sensitivity	4.5
Geohydrologic Setting	4.4
Agricultural Land Use	4.4
Road Network	4.1
Services Efficiency	4.0
Wetlands	4.0
Current Land Use	4.0
Big Game Habitats	4.0
Floodplains	3.9
Land Surface Management	3.9
Generalized Zoning	3.6
Slope of Land	3.6
Parcel Density	3.6
Population Density	3.5
Agricultural Parcel Size	3.1

The final result of the Land Suitability Analysis is the weighted combination of all the maps included in the Plan Map Series. This composite map represents development/conservation suitability for the entire county. The composite map rates all land in the county in a very consistent and relatively objective way. Using this method, the "land speaks for itself" in terms of its suitability for development/conservation. This map became the basis for the Future Land Use Map.

The last steps in making the Future Land Use Map were to add "overlays" showing oil, gas, and mining areas, wind velocity, and sensitive groundwater areas. Expansion areas for each incorporated town were also added.

### Using the Future Land Use Map

The Future Land Use Map is a general guideline representing the pattern of land use and development that will best achieve the goals of this plan. Those goals include retaining agricultural lands, scenic areas, wildlife habitats, water quality in rural areas and promoting residential and commercial development in and around the incorporated towns. The Future Land Use Map is not a prediction of what will happen in the future. Instead, achieving the pattern suggested by the map and the plan's goals is dependent on further action by the County.

In reading and interpreting the Future Land Use Map, it is necessary to view the map together with the table on page 78 entitled "Future Land Use Designations." The map shows the future land uses designations for each area of the county. However, the map does not explain the differences between the different designations. The

table on 78 completes the picture by providing specifications for each of the future land use area designations.

It is anticipated that the County will produce an updated zoning map based on the Future Land Use Map of this plan. In revising the current county zoning, it is important to remember that the Future Land Use Map is not the same as a zoning map.

- The Future Land Use Map is quite general and is not intended to be precise. A new county zoning map must be more precise and should be drawn at a larger scale.
- The zoning map should have large, contiguous areas with the same zoning. The zoning map should avoid having relatively small, isolated areas with different zoning than surrounding areas. Zoning districts should be based on the predominant future land use designation for broad areas instead of trying to zone section by section in exactly imitation of the Future Land Use map.
- Creating zoning district boundaries will emphasize property lines, roads, subdivisions, water bodies, and other such features that are important in zoning administration, features which were not emphasized in the Future Land Use Map.

In other words, zoning district boundaries will usually be defined by roads, property lines, and similar features in contrast to the Future Land Use Map where the smallest unit of analysis was a land section.



*Photo by: Carbon County Planning Staff*

### Considerations Relative to Low Intensity Rural Areas

In order to advance several of the goals listed in Chapter 8 of the Plan, it is necessary to control the extent and form of development in the rural parts of the county. Specifically, these goals require a look beyond de-facto densities set by Wyoming State Statute (one housing unit per 35 acres) in order to achieve them.

The goals that are of particular importance in considering relative densities in low intensity rural areas are:

- Achieve a sustainable balance between energy development, agriculture, and the environment.
- Protect water supplies of established users
- Sustain scenic areas, wildlife habitat, and other important open spaces.
- Retain ranching and agriculture as the preferred land uses in rural areas.
- Locate new residential developments and commercial sites in close proximity to communities and developed areas.

For the kind of agriculture practiced in Carbon County (cattle and sheep ranching and hay production), large acreages are needed to run an economically viable operation. Research on the size distribution of the land holdings of agricultural land owners in the county reveals that three-quarters of all agricultural operations have at least 160 acres (see Chapter 7 for detailed statistics).

As parcel sizes drop below 160 acres, the parcels tend to pass out of the agricultural land market and into the residential land market. As land is broken up into smaller tracts, its value for agriculture is diminished. Changes in the size distribution of agricultural parcels is often invisible and precedes more obvious changes in land use.

The Future Land Use Map of the draft plan designates future land use for over 4,000 land sections that contain at least some deeded land. Of these, 60 percent are designated for "Low Intensity Rural" land use. About 39 percent of the deeded land sections are designated for more intense development. Rather than recommending one density for all areas of the county, the Land Use Plan allocates the highest densities to areas best suited for development and limits development in areas least suited for development per the Plan's goals and the results of the citizen opinion survey. Overall, the plan provides enough development potential to meet the county's expected 20-year population growth many times over.

Future Land Use Category	Density	Land Sections	Percent
Low Intensity	1 housing unit per 160 acres	2,445	60%
Medium Intensity	1 housing unit per 30 to 40 acres	1,151	28%
High Intensity	1 housing unit per 1.5 to 2.5 acres	425	10%
Current Municipal & Future Expansion	Urban	34	1%

The Future Land Use categories specify densities for different categories. Density is different than lot size. Density refers to the number of home sites in a given area and does not specify the size of individual land parcels. In contrast, lot size does specify the minimum land area for each home site and thereby indirectly sets the area density. By specifying density and not lot size, the Future Land Use categories provide for more flexibility in development configurations. For example, this concept could be applied to a 640-acre parcel as follows: with a density of one home site per 160 acres, four home sites could be developed on the section. The individual lot sizes are not important; three of the home sites could be on small parcels such as two to five acres with one additional home site on the remaining 600+ acre parcel.

Controlling density is important to retaining agriculture and wildlife habitat. As residential densities increase, conflicts with pre-existing agricultural operations also increase and can drive agriculture and wildlife out of an area.

Some of the problems associated with Carbon County zoning regulations could easily be avoided by making smaller-lot development an option in all zones as long as overall density requirements are met. This would speed up and simplify the development process while maintaining the overall density recommendations of the Land Use Plan.

At its final meeting, the Land Use Plan Steering Committee discussed the Low Intensity Rural area recommendations (i.e., the 160-acre density concept). As a result, the 160-acre density concept was further refined to include recommendations regarding cluster development and exceptions:

- Regarding cluster development, it was decided to add an incentive to "cluster" new home sites on smaller acreages. The incentive would be allowing overall housing density to increase to one housing unit per 120 acres. For example, on a section of land, the 160-acre density concept would allow four home sites. If the home sites were relatively small, such as 20 acres each, then an additional home site would be allowed. At full development, the majority of the section would remain as a single parcel that could not be further subdivided and the house lots would take up only a small portion of the original section--the overall density would allow five home sites on the section.
- It was also decided to include the idea of exceptions to the 160-acre density concept for situations where the Low Intensity Rural designation is not appropriate. Such an exception would allow more housing units and/or smaller subdivision lots if the landowner can show that the land in question has a disproportionate amount of land of poor agricultural quality and the land has good access, available domestic water supplies, and other such features that favor denser development. This exception would be a conditional use in the zoning resolution. The exception would not be routine but would be reserved to unusual cases where the goals of the Land Use Plan would not conflict with extra development on a tract of land.

#### Considerations Relative to Town Expansion Areas

The future land use maps designate areas for future expansion of the County's incorporated municipalities. For Rawlins, the designated expansion area is the same as shown in the City's 1999 Future Land Use Plan. For all other municipalities, the expansion areas are simply circular areas showing outward expansion in all directions. In both cases, further planning is needed to develop definitive expansion areas for the municipalities. In Rawlins case, the City is beginning the process of updating its 1999 plan; the City and County should work together through this process and develop a more up-to-date plan of city expansion. The County should also work with the other municipalities to more definitively delineate future expansion areas for each municipality. Such future land use mapping should take place along with the other recommended actions for coordinating with local governments as detailed in Chapter 9.

## Future Land Use Designations

<b>High Intensity Rural</b>	
<b>Uses</b>	Rural residential uses; limited commercial uses at key locations (such as at major road intersections); and public uses.
<b>Base Density</b>	1 housing unit per 2.5 acres
<b>Cluster Incentive</b>	1 housing unit per 1.5 acres; 50-75% open space required.
<b>City/Town Expansion Overlay</b>	City/town density and uses; Public water and sewer required; Specific uses and densities per Intergovernmental Agreement with towns/city.
<b>Energy Development Overlay</b>	Energy uses predominate; Non-energy developments designed to minimize conflicts with energy development.
<b>Irrigated Agriculture Overlay</b>	Clustering required to minimize conversion of irrigated land.
<b>Sensitive Groundwater Overlay</b>	Base density reduced to 1 housing unit per 5 acres; heightened review of water and wastewater treatment plans.

<b>Medium Intensity Rural</b>	
<b>Uses</b>	Agricultural and related uses; rural residential uses; limited commercial uses at key locations (such as at major road intersections); public uses; recreational uses; and industrial uses carefully sited to avoid conflicts with other land uses.
<b>Base Density</b>	1 housing unit per 40 acres
<b>Cluster Incentive</b>	1 housing unit per 30 acres; 50-75% open space required.
<b>City/Town Expansion Overlay</b>	City/town density and uses; Public water and sewer required; Specific uses and densities per Intergovernmental Agreement with towns/city.
<b>Energy Development Overlay</b>	Energy uses predominate; Non-energy developments designed to minimize conflicts with energy development.
<b>Irrigated Agriculture Overlay</b>	Clustering required to minimize conversion of irrigated land
<b>Sensitive Groundwater Overlay</b>	Heightened review of water and wastewater treatment plans.

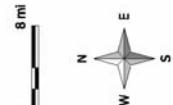
<b>Low Intensity Rural</b>	
<b>Uses</b>	Agriculture and related uses; agriculture-related commercial uses; low density residential uses; public uses; recreational uses; and industrial uses carefully sited to avoid conflicts with other land uses.
<b>Base Density</b>	1 housing unit per 160 acres
<b>Cluster Incentive</b>	1 housing unit per 120 acres; 50-75% open space required
<b>City/Town Expansion Overlay</b>	City/town density and uses; Public water and sewer required; Specific uses and densities per Intergovernmental Agreement with towns/city.
<b>Energy Development Overlay</b>	Energy uses predominate; Non-energy developments designed to minimize conflicts with energy development.
<b>Irrigated Agriculture Overlay</b>	Non-agricultural uses sited to minimize conversion of irrigated land.
<b>Sensitive Groundwater Overlay</b>	Heightened review of water and wastewater treatment plans.

**CARBON COUNTY  
LAND USE PLAN**

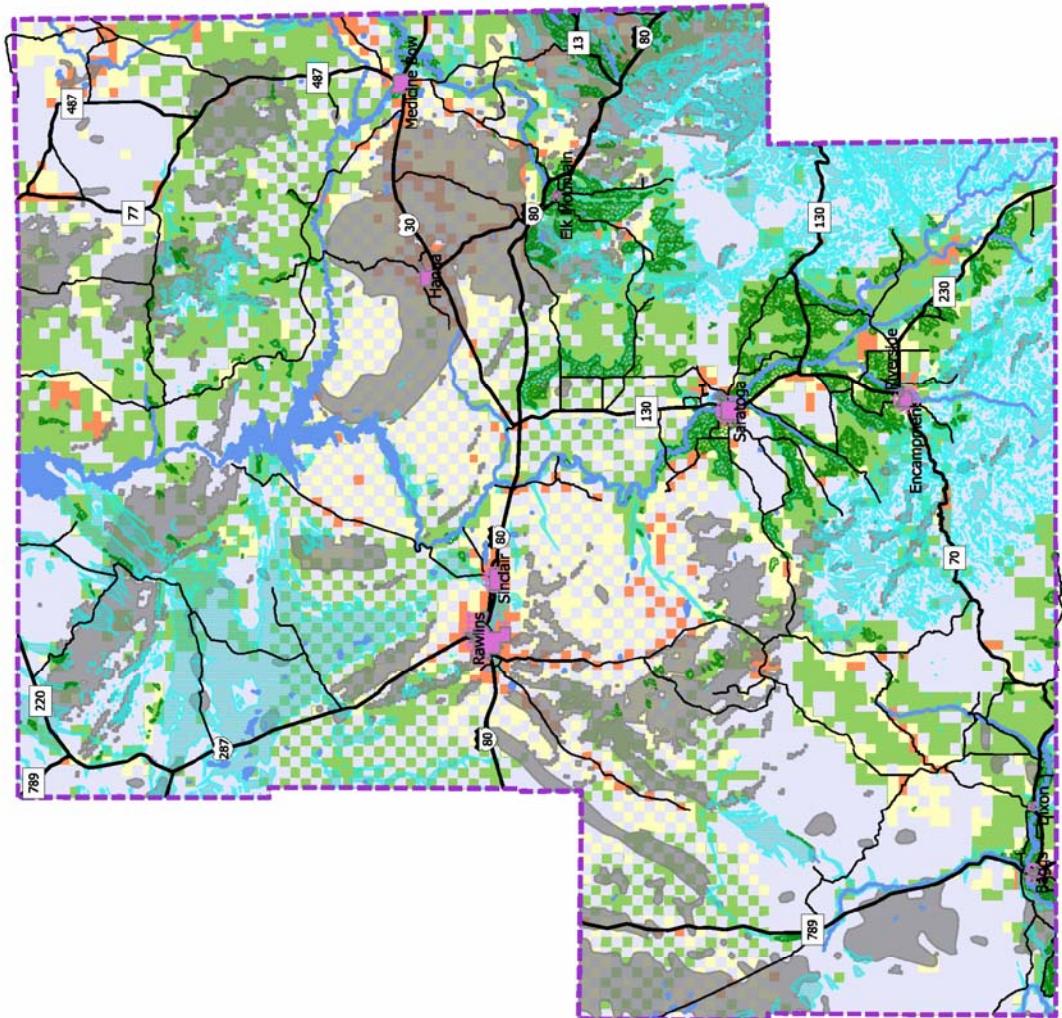
*Future Land Use  
Carbon County*

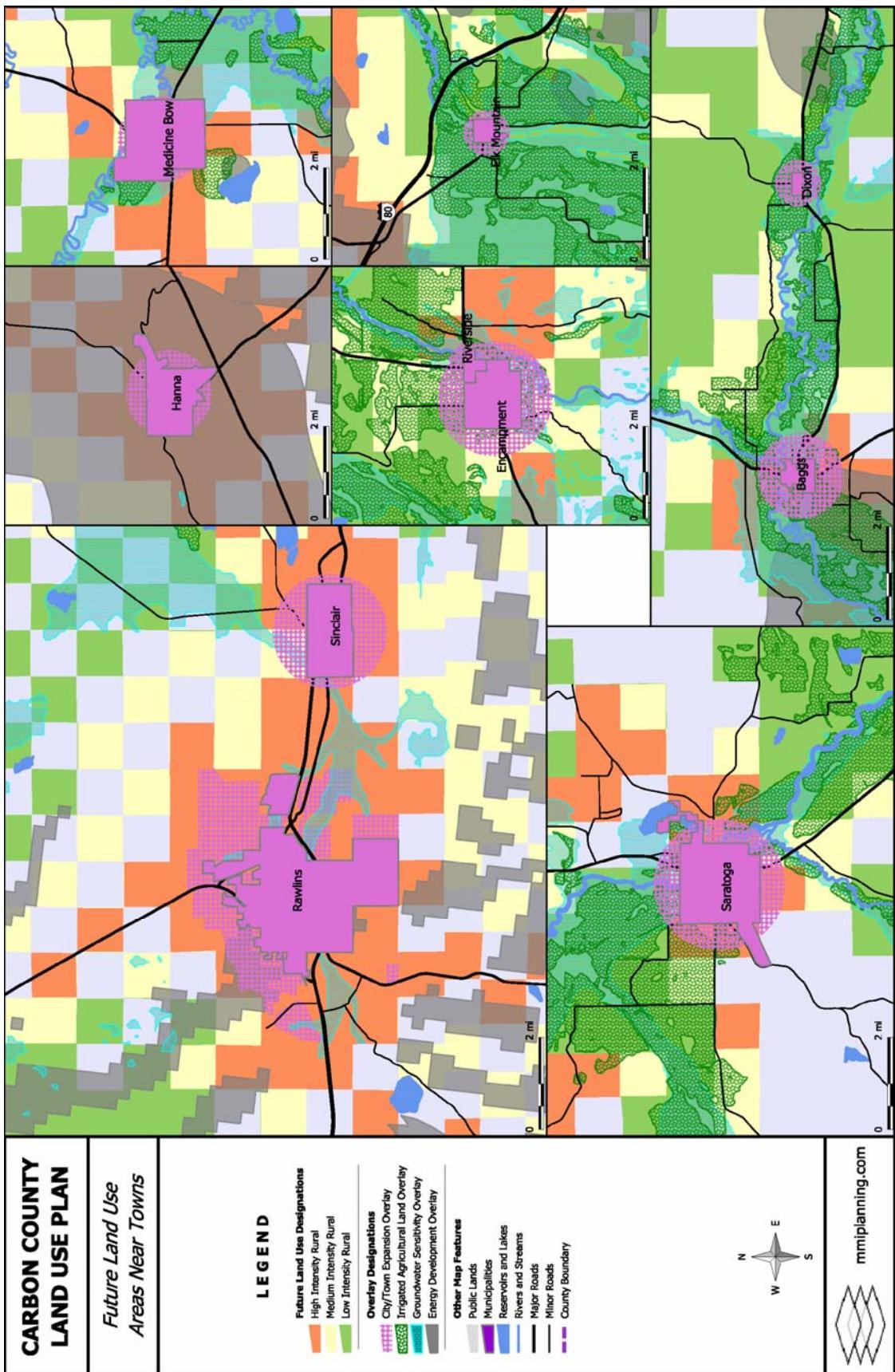
**LEGEND**

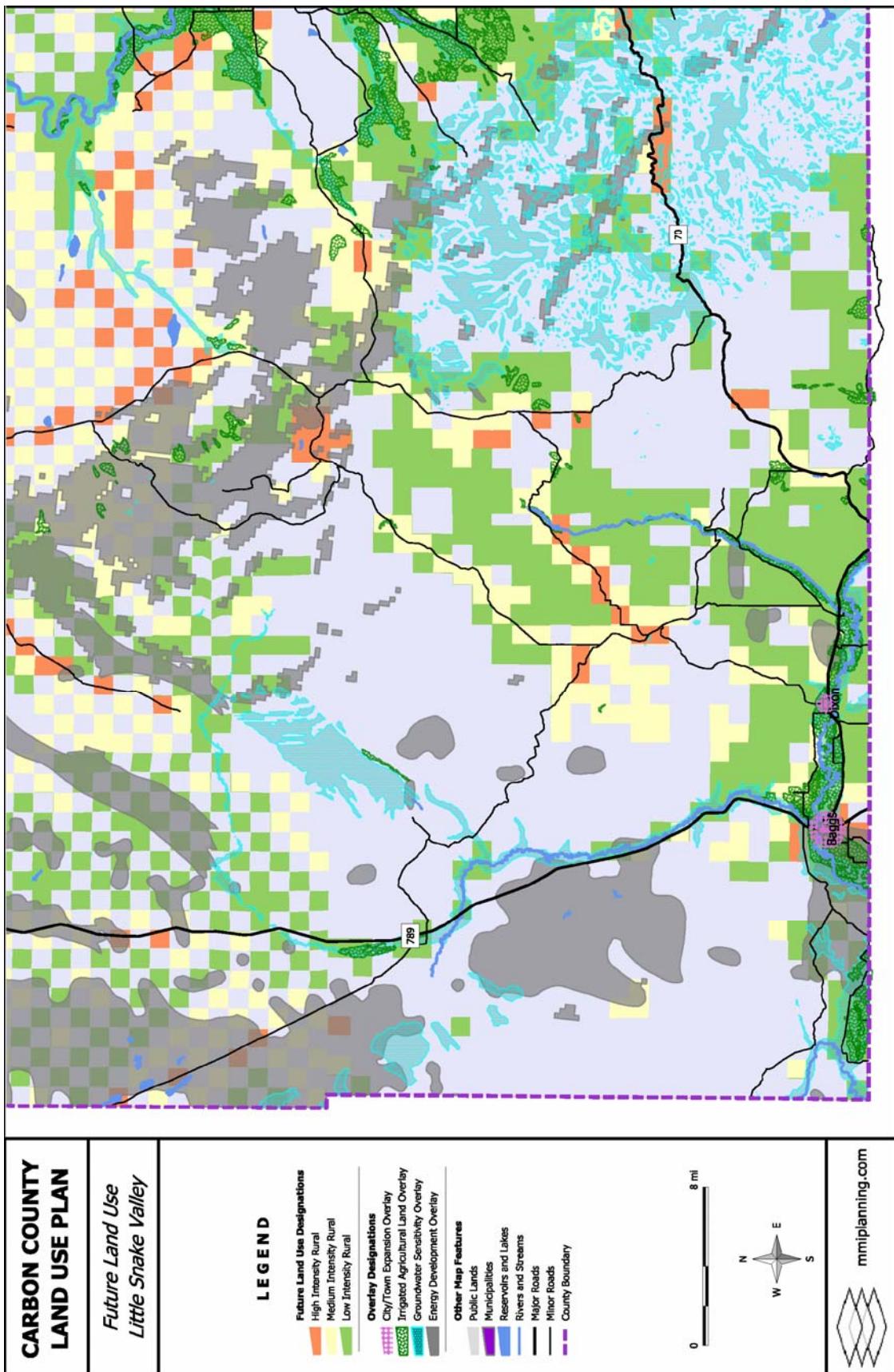
Future Land Use Designations			
	High Intensity Rural		
		Medium Intensity Rural	
			Low Intensity Rural
<b>Overlay Designations</b>			
	City/Town Expansion Overlay		
		Irrigated Agricultural Land Overlay	
			Groundwater Sensitivity Overlay
			Energy Development Overlay
<b>Other Map Features</b>			
	Public Lands		
	Municipalities		
	Reservoirs and Lakes		
	Rivers and Streams		
	Major Roads		
	Minor Roads		
	County Boundary		

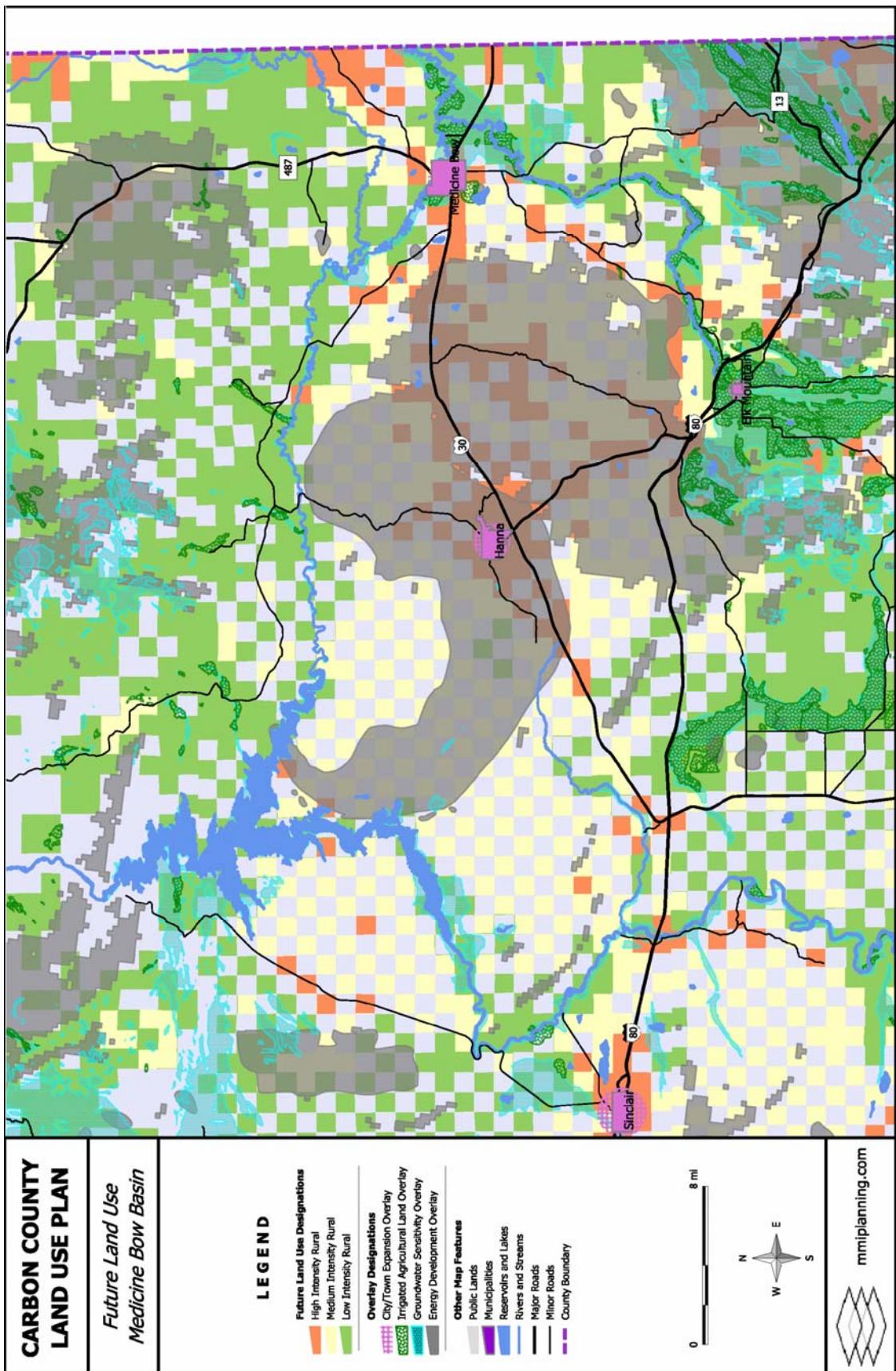


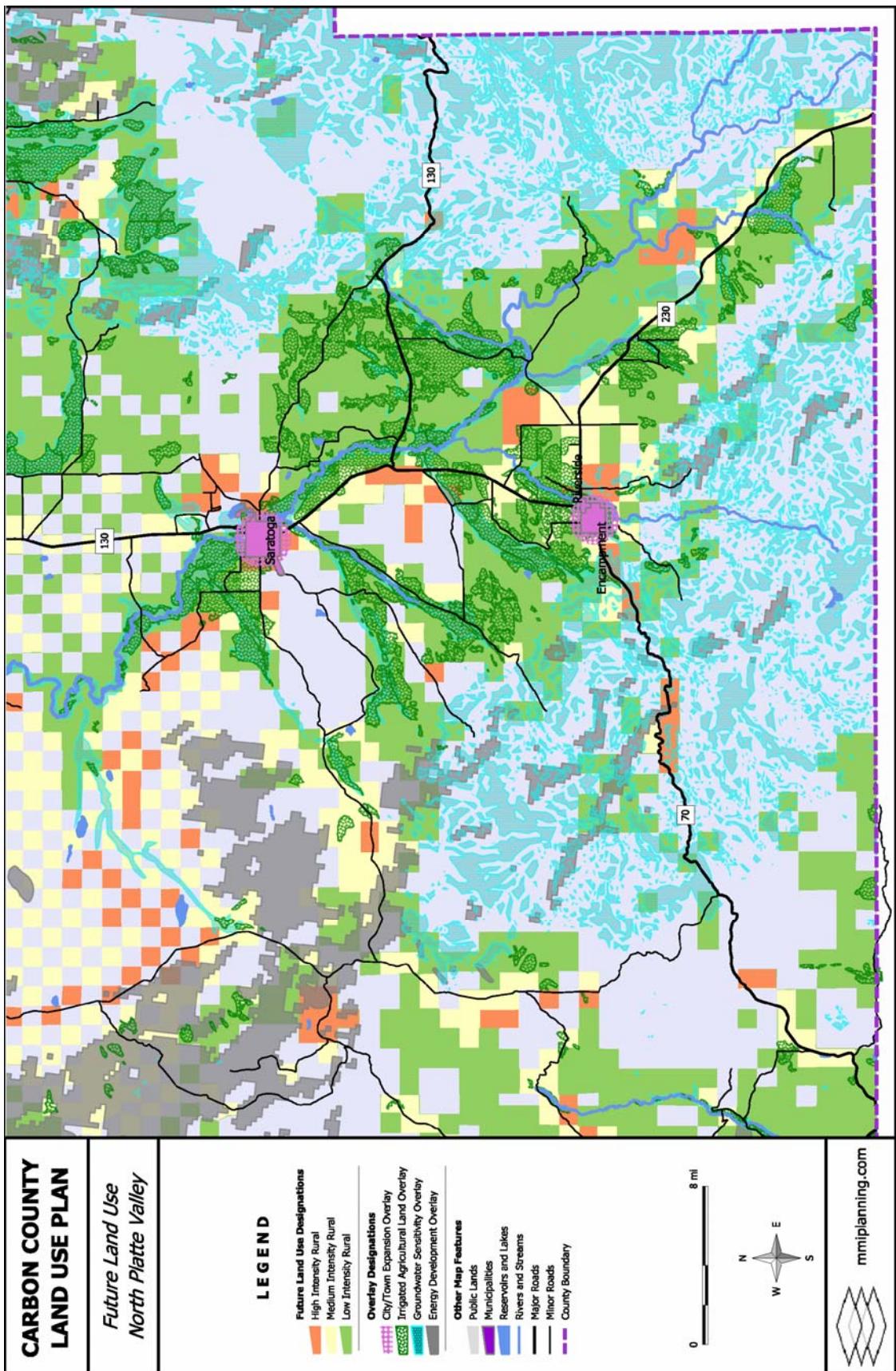
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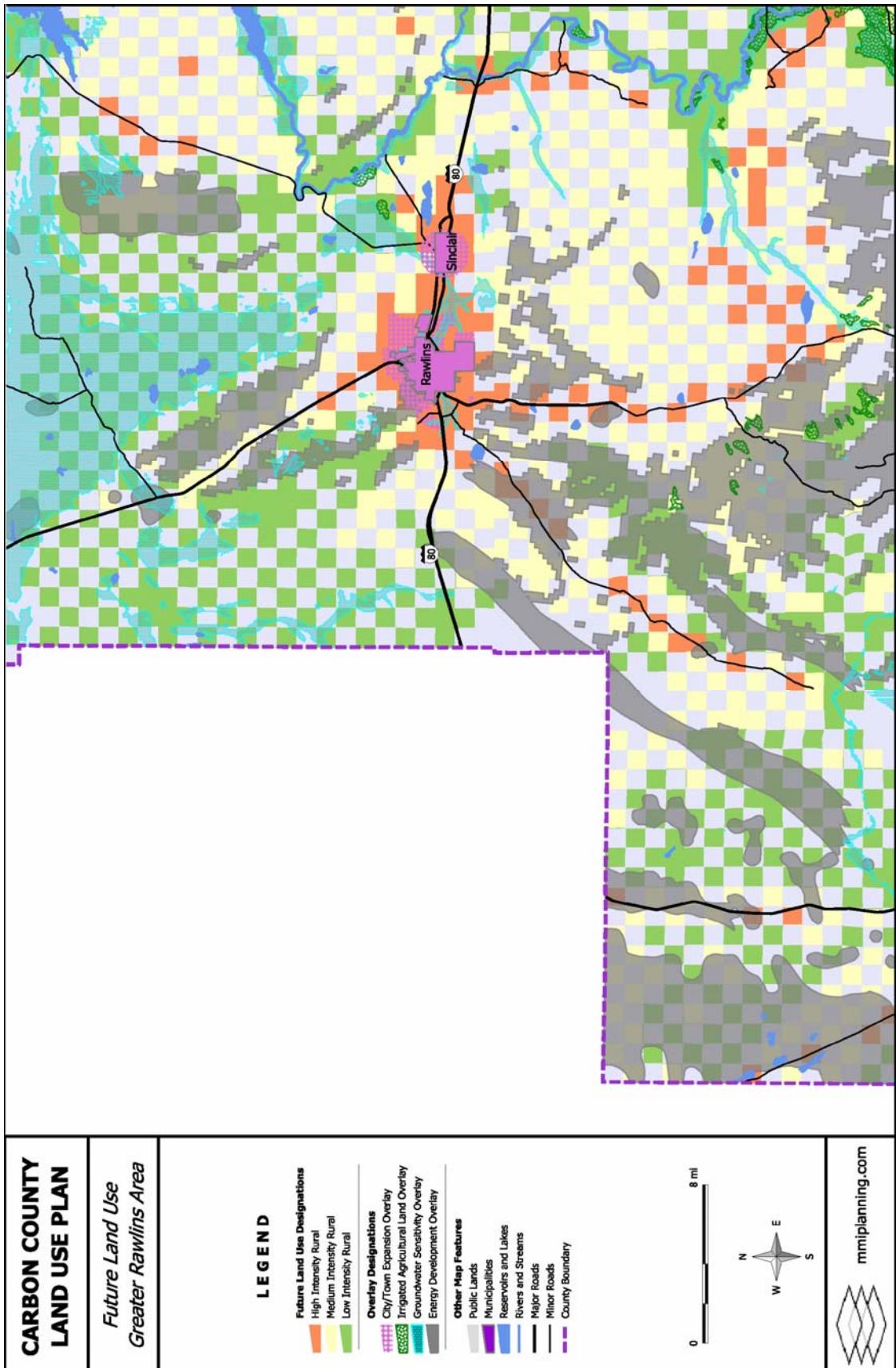












## Chapter 8: Goals and Strategies

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### Introduction

The development of relevant County goals and strategies is essential to the successful implementation of the County Land Use Plan. Data gathered and mapped for the preceding chapters of the plan helped establish the background and potential future for Carbon County's land use needs, while the future land use map has defined its vision. This information and the results of public participation played a significant role in the creation of County goals and strategies.

### Strategies for Public Input

Several public participation strategies were used in order to obtain a sense of the local values and land use preferences of property owners and residents. Outreach was also made to citizens to help them learn about the Plan and be aware of its development. These strategies included the creation of a project website, a planning survey, steering committee meetings, two rounds of open houses, local newspaper coverage, and routine communication with County officials.

*Project Website.* A Carbon County Land Use Plan website was created at the inception of the project. The site's contents were designed to inform readers about the planning process in use to develop the Plan, and the site included draft chapters, maps, and background information about Carbon County. Links were available for providing comments. The website address was included in publicity about the Land Use Plan.

*Planning Survey.* A survey was conducted early in the preparation of the Land Use Plan which produced valuable insight into property owner and resident opinions about the County. The target population consisted of landowners (resident and non-resident) in unincorporated Carbon County and voters in the incorporated city and towns. The landowner survey sample was 651, and a response of 50.4 percent was achieved. There were 669 surveys sent to town voters, with 40.1 percent responding. The response rate for landowners resulted in an indication of the views of all landowners with a  $\pm$  five percent accuracy. The response rate for town voters represents a less accurate sampling although the results were still informative.

A question was asked to learn why the respondent lived or owned property in the County. Sixty percent or more of the local landowners in unincorporated Carbon County stated their reasons were: family, scenic beauty and mountain views, air and water quality, and low population. Sixty percent or more of non-local landowners indicated the following were among the reasons they owned property in the County: recreation opportunities, wildlife and wildlife habitat, scenic beauty and mountain views, and air and water quality. Finally, sixty or more percent



*Photo By: Michael Evans*

of the town voter sample responded that family, low population, and air and water quality were reasons they lived in the County.

Several statements were presented that asked about possible goals for land use planning. The statements that received 70 percent or more agreement from all categories of respondents were:

- Ensure that new development does not impair water supplies for established users
- Ensure that new development is served by adequate infrastructure such as roads, water, and sewer
- Promote continuation of ranching and agriculture
- Ensure that new development pays for the public services and infrastructure needed to support it
- Maintain open space and wildlife habitats throughout the county
- Improve the quality of new development and minimize its impact to agriculture and the natural environment

With regard to new residential development, 80 percent or more of all survey respondents agreed that they would like to see it occur in towns, and 65 percent or more agreed they wanted to see it near existing development. On the reverse side, 10 percent or fewer respondents noted that new residential development should occur away from existing development.

The responses to these and other questions were paramount to the development of the County's goals and strategies. A copy of the survey and the complete results are located in the Appendix.

*Steering Committee.* The Board of County Commission appointed an 11-member steering committee that met approximately once every six weeks throughout the Plan's development. Meeting agendas and summaries were posted on the Plan website and all meetings were open to the public. The meetings were held throughout the County, beginning in March 2008 and ending in July 2009. This group was responsible for reviewing all drafts and maps and contributed to the final contents of the Plan. The list of committee members is located in the Appendix.

*Open Houses.* Two series of public open houses were held throughout the County. The first were conducted in November 2008 at locations in Baggs, Rawlins, Saratoga, and Hanna. The draft goals and survey results were presented along with other displays. Comment forms were available to the public and several comments were received and reviewed by the Steering Committee.

The second round of open houses occurred in May 2009 in Rawlins, Saratoga, and Baggs. In addition a presentation was made before the Council of Governments in Encampment. Displays were presented of the future land use map, strategies, and action items for the Plan's implementation. Comment forms were available and those received were distributed to the Steering Committee.

*Newspaper Coverage.* Beginning in Spring 2008, numerous articles appeared in the local newspapers about the Plan's progress. Reporters attended Steering Committee meetings and were present at the open houses. Interviews were held with reporters as requested. Ads announcing the open houses were placed in the local newspapers at least two times before the events.

*County Communication.* A monthly report was emailed to county elected and appointed officials, staff, and interested parties. The report was used to keep everyone informed as to the Plan's schedule and progress.

### Goals, Strategies, and Actions

As previously stated, the survey results, public comments, and background information about Carbon County were used to shape the County goals and strategies. The Land Use Steering Committee provided significant review and comment on the goals and strategies as they were drafted and edited. The result of their input and final adjustments are presented below. The goals are not listed in order of importance as it is believed they are equally significant for guiding the future land use direction of the County.

Goals are broad statements representing the final results to be obtained through strategies and actions. Strategies are the approaches used to reach goals. Actions are the steps taken in order to achieve strategies. The goals and strategies will be used in conjunction with the future land use map to assist County officials and staff in making land use decisions.

The Carbon County Land Use Goals are numbers 1 through 7 below. Each goal is followed by strategies, which are the statements shown directly above the bullets. The bulleted items in italics are the actions needed to attain the strategies.

#### **1. Achieve a sustainable balance between energy development, agriculture, and the environment.**

Strategies and *Actions*:

Encourage a steady, paced development of the gas and oilfields.

- *Participate in comment periods of the Federal environmental impact statement process.*
- *Attend meetings and hearings of the Industrial Siting Council.*

Enhance the county government's capacity to monitor, comment on, and influence state and federal decisions on energy development projects.

- *Conduct regular meetings between Board of County Commissioners, BLM, DEQ, USFS, and other governmental bodies to share information about pending energy projects.*
- *Participate in comment periods for environmental impact statements.*

Develop standards for wind energy, transmission lines, and other alternative energy development so they can occur with limited environmental impact on traditional land uses, humans, and wildlife.

- *Research best practices information for developing standards that encourage alternative energy development and transmission lines with the least environmental impact.*
- *Prepare standards for adoption as part of the County Zoning Resolution.*

Limit residential development-related impacts on resource extraction, irrigated lands, and agriculture in general.

- *Create zoning incentives that encourage residential development in areas not suited for irrigation, agriculture, or resource extraction.*

Support mitigation of impacts created by energy industries where available science supports mitigation.

- *Maintain dialog with energy industries by regular meetings to keep communication current.*
- *Identify issues that need mitigation and develop solutions for resolution with industry leaders.*
- *If available science indicates a proposed energy project cannot mitigate its impacts, Carbon County should either not approve the project or else recommend that it be located in a more suitable location.*

## **2. Protect water supplies of established users.**

Strategies and Actions:

Evaluate the impacts of individual household wells and septic systems in rural areas in order to protect existing water users, particularly irrigation users.

- *Review State Engineer records of domestic wells and locate on maps using County GIS program.*
- *Document septic system failures and corrective measures taken.*
- *Distribute information to the public about techniques to protect groundwater, creeks, and rivers from septic tank contamination.*

Institute a locally-controlled program to ensure proper design, siting, and construction of on-site waste water treatment facilities for rural residential developments.

- *Develop agreement with DEQ to allow county approval of individual septic systems.*

Protect rivers, creeks, and aquifers from pollution.

- *Review local standards for setbacks from water edges.*
- *Investigate best practices for maintaining distance from live water and adjust local standards if needed.*
- *Require storm-water runoff mitigation for new developments and industries.*

Protect aquifer recharge areas.

- *Require storm-water runoff mitigation for new developments and industries.*
- *Identify location of aquifer recharge areas.*

Endorse and support the continuation of adjudicated water rights in the County.

- *When reviewing land use proposals, honor existing adjudicated water rights by requesting applicant information about their intended water source and potential impacts on surrounding land uses.*

Limit new development in sensitive groundwater areas.

- *Identify sensitive groundwater areas and use that information in the review of new development.*
- *Develop standards that encourage new land use development in areas outside of sensitive groundwater sites.*

Compile information about countywide aquifers and water supplies

- *Review 'Water Resources of Carbon County, Wyoming – Scientific Investigations Report 2006-5027' by United States Geological Survey (USGS) for groundwater and surface water resource information.*
- *If additional aquifer information is warranted, consider funding a countywide aquifer study by using county, state, and federal funding sources*

Protect community watersheds and wellheads.

- Map locations of watersheds and wellheads that are sources of community drinking water
- Strictly control or prohibit new land uses in watershed or wellhead areas that could negatively impact potable water.

### **3. Sustain scenic areas, wildlife habitat, and other important open spaces.**

Strategies and Actions:

Protect irrigated agricultural land as an important source of scenic landscapes, open spaces, and wildlife habitats.

- *Develop standards for rural land uses that limit impacts on agricultural lands.*
- *Maintain the private property rights of agricultural producers.*
- *Create an agricultural zoning district that permits limited residential development in association with the primary agricultural uses.*
- *Promote cluster development and density bonuses for residential development in areas designated for rural residential uses.*
- *Require subdividers to comply with Wyoming Statutes and Carbon County regulations regarding the subdivision of land and associated water rights.*

Limit development in wildlife migration corridors, winter ranges, and birthing areas, and sage grouse core areas.



*Photo by: Linda Fleming*

- *Identify and map major migration corridors, winter ranges, birthing areas, and sage grouse core areas.\**
- *Support efforts of non-governmental organizations such as land trusts to conserve sensitive wildlife habitat areas.*
- *Locate rural subdivisions in areas designated for rural residential development.*

Undertake a countywide assessment of scenic resources to precisely identify the important scenic areas that should be protected from conflicting land uses.

- *Conduct a survey of county residents to ask which areas have the most important scenic value.*

\* A map of sage grouse core breeding areas is available through the Wyoming Game and Fish Department.

Identify open space priorities and recommendations for maintaining these resources.

- *Develop land use standards that will maintain scenic vistas by the use of innovative subdivision design and clustering.*
- *Support the acquisition of conservation easements on sensitive and unique scenic areas.*
- *Adopt an overlay district for open space, scenic, and wildlife areas.*

Support the preservation of rural historic sites and areas of significant local history for area residents and tourists.

- *Work with local preservation groups, museum boards, and historical societies to preserve historic sites.*
- *Protect resources from incompatible land uses by designating the site as historically significant.*

#### **4. Retain ranching and agriculture as the preferred land uses in rural areas.**

Strategies and Actions:

Create incentives and implementation tools to support the continuation of agriculture as a viable industry in Carbon County.

- *Support Right to Farm statutes.*
- *Limit development of incompatible uses to areas designated for subdivisions or commercial uses.*
- *Limit residential housing densities in agricultural district.*

Limit non-agricultural development, including large lot residential developments, from infringing on irrigated agricultural lands.

- *Locate residential subdivisions in areas designated for rural residential development.*
- *Create standards for density bonuses and cluster development to encourage development that does not infringe on irrigated lands.*



*Photo by: Michael Evans*

Revise development regulations to discourage nonagricultural development of high quality agricultural land and particularly irrigated land, and encourage development in growth areas where development is more appropriate.

- *Concentrate new subdivisions in areas designated for rural residential development.*
- *Consider development of density transfers between properties to shift density from agricultural district to areas suited for residential development.*

Support the promotion of agricultural operations and agriculture-related businesses in the County's economic development efforts.

- *Work with local business development efforts to promote agriculture.*

Create an agricultural advisory board to assist the county in identifying ways of helping support the continuation of the county's agricultural industry.

- *Meet with agricultural operators and Conservation Districts to develop strategies in support of agriculture.*

Encourage the activities of local conservation districts and similar organizations that support agriculture.

- *Support local efforts through participation and commitment, as well as with financial assistance when appropriate.*

## **5. Locate new residential developments and commercial sites in close proximity to communities and developed areas.**

Strategies and Actions:

Coordinate planning with all communities to develop detailed land use plans and infrastructure plans for the growth areas of each community.

- *Investigate options for joint planning opportunities by the County and towns to guide development on the fringes of towns, such as intergovernmental agreements, annexation agreements, and infrastructure planning.*
- *Work with local citizens to address concerns related to development in community growth areas.*

Adopt incentives for residential and commercial development adjacent to incorporated areas.

- *Adopt standards for clustering, density bonuses, and residential design that encourage development close to communities.*

Encourage mining and industrial development at appropriate locations consistent with other land use goals and avoid locating incompatible industrial uses near towns or other developed areas.

- *Locate industrial uses where there is suitable access, utilities, and compatibility with surrounding land uses.*
- *Develop standards for mitigating industrial impacts, including noise, lights, traffic, air and water quality, and dust.*

Provide County staff expertise to assist municipalities with their planning and control of development.

- Consider providing county circuit rider planning assistance to towns.
- *Meet regularly with city and town staff and planning commissions to coordinate land use development strategies.*
- *Continue participation in the Council of Governments so elected officials can share regional perspectives and provide a united front on planning and regional issues.*

Limit new infrastructure to where growth is planned.

- *Use the county future land use map as a guide for the location of new infrastructure.*
- *Obtain comments about city and town infrastructure plans as part of the development review process.*

Ensure that County land use regulations provide adequate opportunities and appropriate locations for recreational and tourism-related land uses, including ski areas and guest ranches.

- *Review zoning resolution to make sure recreation and tourism land uses are permitted either outright or as conditional uses.*

## **6. Ensure that future land development is fiscally responsible and has adequate roads and other infrastructure.**

Strategies and Actions:

Amend zoning and subdivision regulations to match the findings of the County Land Use Plan.

- *Identify zoning and subdivision amendments necessary to match the regulations with the land use plan.*
- *Amend the county zoning resolution so it is consistent with the Carbon County future land use map.*
- *Review and amend county subdivision resolution as needed.*

Review county subdivision process to ensure that all land development projects are required to have necessary easements and construct adequate roads and infrastructure.

- *Amend subdivision resolution to assure proper easements are acquired and that roads and infrastructure will be completed in a timely, efficient manner.*

Maintain or establish urban service boundaries and agreements between incorporated areas and the county regarding the extension of public services into unincorporated land.

- *Establish urban service boundaries with the city and towns that are consistent with the future land use map for Carbon County.*
- *Work with incorporated communities to coordinate land use development in the unincorporated areas surrounding the city and towns.*

Locate new developments in close proximity to areas where public services already exist and can be provided efficiently.

- *Coordinate future development with existing and planned services and utilities.*

Consider adopting impact fees to help address the county's costs of public services to rural developments.

- *Investigate options for impact fees to offset costs of rural development and assist in funding needed services.*

**7. Retain diversity of use on public lands and provide for conversion of public lands to other land uses as would benefit the orderly development of the county.**

Strategies and Actions:

Encourage land exchanges that will benefit local governments or private land owners and consolidate public lands.

- *Identify and map small pockets of public land that could be exchanged for local government or private uses.*
- *Identify public lands that could potentially be of benefit to local governments.*
- *Maintain dialog with federal agencies concerning opportunities for land exchanges that could benefit all parties.*



*Photo by: Linda Fleming*

When land exchanges take place between public and private agencies, use negotiations to keep recreation land available.

- *To the extent possible, limit the removal of federal land from recreational use.*
- *If federal land is proposed to be exchanged for a non-recreational use, negotiate an increase of recreational use elsewhere so there is no net loss.*

Maintain recreational use on public lands.

- *Support multiple use policies, including recreational uses.*
- *Ensure there is adequate access to public lands and rivers by obtaining easements, getting approvals, and purchasing ground to reach public lands.*

## Chapter 9: Implementation and County Zoning

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### Introduction

What makes a plan a success is the degree of its implementation. In other words, the more a plan's strategies and actions are put into motion, the higher the likelihood of achieving the goals of the plan. Carbon County citizens provided the guidance in shaping these goals, which makes it all the more crucial that they be attained. Nearly 80 action items are described in the Goals, Strategies, and Actions Chapter. Not all can be accomplished at once, although many of the actions overlap. Some involve the use of incentives to achieve results, and others rely on the development of standards and other regulatory tools.



*Photo by: Michael Evans*

For the most part, the actions can be grouped into four broad categories:

- Communication and participation
- Revision of County regulations
- Coordination with local governments
- New incentives and standards

### Communication and Participation

Many of the proposed actions pertain to the importance of County communication and participation in activities such as federal agency comment periods, environmental reviews for energy projects, dialogues with energy companies, and meetings with Conservation Districts and agricultural operators. The point of these actions is to make sure the County is aware of what is occurring on public or private land and that the County has an active role in directing certain land uses to their most appropriate locations.

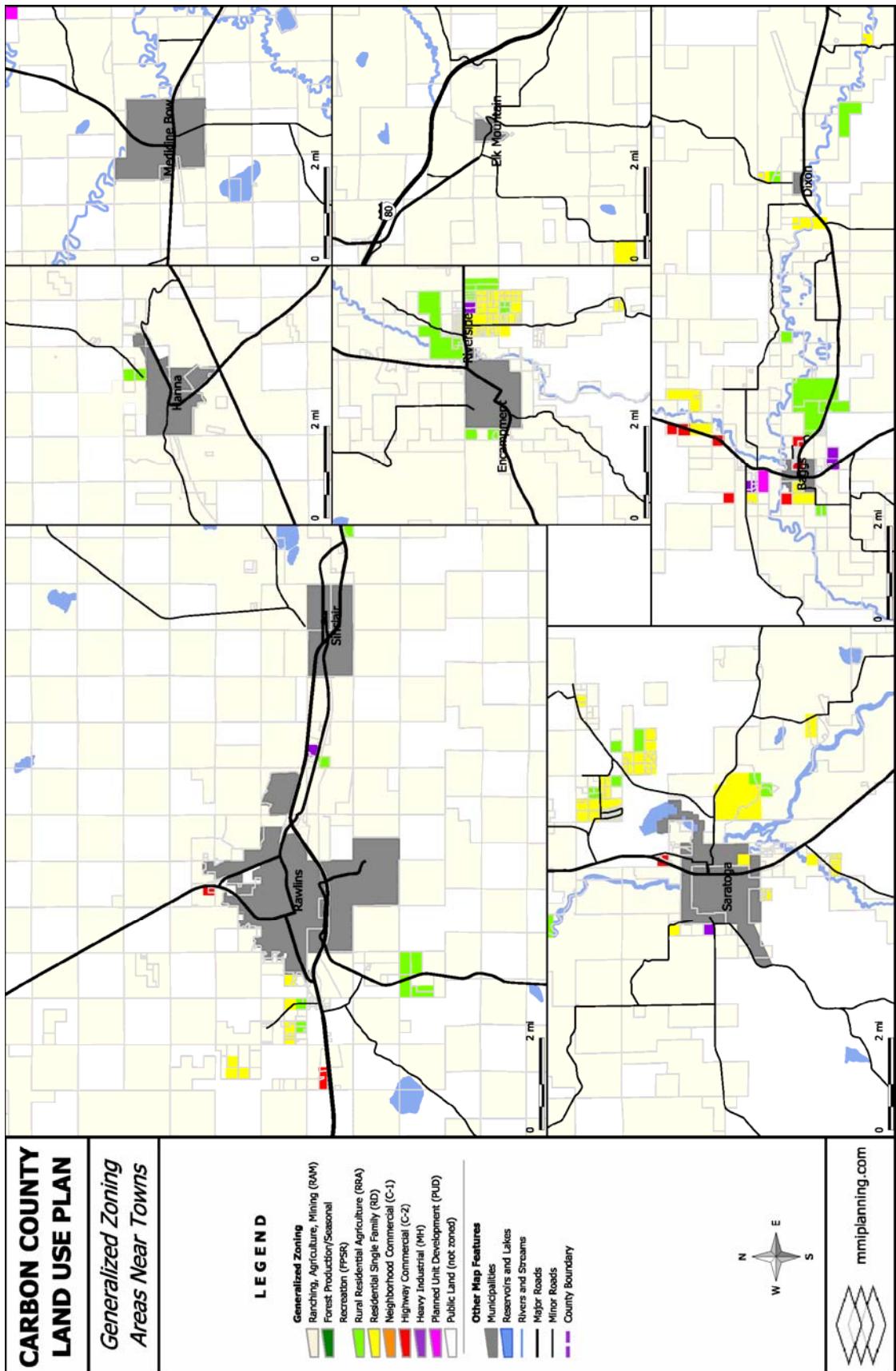
The County Land Use Plan is one method of documenting county positions about federal land issues, particularly as they relate to energy development, public access, recreation, and multiple use. Although there is no requirement that federal agencies must comply with local regulations, the agencies are required to consider the County's positions in their decision making processes. Carbon County officials have been represented in many venues where federal issues are discussed; the Land Use

Plan will give them another tool that can be used in communicating with other levels of government.

### Revision of County Regulations

*County Zoning Resolution.* Wyoming State Statutes require counties to have comprehensive plans as a prerequisite to zoning regulations. This means that counties with zoning need plans that substantiate the need and justification for the zoning, and it is incumbent on counties to adhere to best-practices of the planning profession. What follows are the significant items within the Carbon County Zoning Resolution that will need modification in order to strengthen the connection between the County Land Use Plan and County Zoning. The items are also reflected in the future land use discussion and the strategies and actions listed for the Plan in Chapters 7 and 8.

1. Develop a correlation between the land use categories described in the plan and future land use map and the ten County Zoning Districts.
2. Establish minimum parcel sizes that are large enough to constitute economically viable agricultural operations.
3. Designate permitted land uses and conditional uses within agricultural areas to minimize conflicts between agricultural and non-agricultural uses.
4. Develop a section that offers residential density bonuses to encourage cluster development and/or development in close proximity to municipalities.
5. Develop conditional use standards for energy development and transmission lines to limit environmental impact.
6. Adopt incentives to encourage commercial development near municipal areas.
7. Review permitted uses to provide adequate opportunities for recreation and tourism-related land uses.
8. Prepare sections for the use of overlay districts to delineate irrigated land, energy resources, and so forth.
9. Update and streamline administrative procedures.
10. Edit text in Chapter IV, Zoning Districts, to simplify confusing language, review permitted and conditional uses, and generally assure that the districts align with the results of the land use plan.
11. Specify use of intergovernmental agreements between Carbon County and incorporated city and towns for jurisdictional areas.
12. Adopt county zoning map.



*County Subdivision Resolution.* Wyoming requires its counties to have subdivision regulations that guide the division of land into smaller lots for sale and development. Carbon County's subdivision regulations should be updated and modified in order to best achieve some of the goals of the Plan. Among the subdivision-related actions proposed for implementation are several related to environmental mitigation, adjudicated water rights, groundwater identification, and support for agriculture.

Two recent state laws should also be considered for inclusion in the County's subdivision regulations: the Conservation Design Process (House Bill 9 of 2009) and authority to control large acreage (larger than 35- acres) land divisions (Senate File 11 of 2008). Both offer land owners the ability to divide land into 35-acre tracts while also providing the County with a method for guiding that growth toward areas suitable for rural residential development.

Briefly, the Conservation Design Process bill allows counties to cluster land divisions that are created by the 35-acre subdivision exemption. The legislation authorizes counties to allow twice as many lots as the 35-acre division process would normally produce, provided that 65 percent of the land is preserved as open space. This would result in lots that are much smaller than 35 acres while conserving open space. The county is also allowed to waive some of the more costly and time-consuming steps of the regular subdivision review process.

Prior to the adoption of Senate File 11, counties had very limited roles in the review of 35-acre lot divisions because lots that size or greater were exempt from the subdivision approval process. Counties are now able to require full subdivision review of developments consisting of 10 or more lots that are 35-acre to 140-acre in size. The legislation also allows counties to require a survey, water rights and irrigation review, and water supply study for developments of fewer than ten lots that are 35- to 140-acres per lot, although the full subdivision review process is not required.

#### Coordination With Local Governments

A considerable number of the Plan's action items discuss the need for coordination with the incorporated city and towns within the County. The results of doing so would be mutually beneficial for the County and the towns, as well as likely to lead to more attractive urban fringe areas. Given that land adjoining incorporated areas stands a fair chance of being annexed into a city or town, it makes sense to encourage these areas to be appealing for future residential and commercial development.

Examples of Plan actions that will lead to local government coordination include:

- The identification and protection of community watersheds and wellheads
- Preservation of historic sites
- Investigation of opportunities for joint planning, such as a shared planning circuit rider planner
- Coordinated land development strategies
- Use of the Future Land Use Map to guide the location of new infrastructure
- Participation in the Council of Governments, and
- Coordination regarding urban services and utilities

The County has cooperative agreements with some of the incorporated towns and Rawlins for reviewing developments within one mile of town limits. In fact, Wyoming Statute §18-5-308(b) requires town approval of any county subdivision within one mile of town limits prior to the County taking action on the subdivision. Existing agreements should be reviewed and new agreements written as necessary to make sure the agreements include review procedures, development standards (streets, sidewalks, street lights, drainage, and utilities), and annexation procedures.

### New Incentives and Standards

The results of the Citizen Survey made it clear that county property owners support the following initiatives which have been carried over into the Land Use Plan goals:

- New development that does not impair the water supplies of established users
- New development that is served by adequate infrastructure (roads, water, sewer)
- Continuation of ranching and agriculture
- New development that pays for its own public services and infrastructure
- Open space and wildlife habitats throughout the county
- Improved quality of new development with minimal impact to agriculture and the natural environment

Carbon County is committed to using incentives for guiding future development to the greatest extent possible. This is reflected in action items that encourage clustering and density bonuses in areas where residential development is desired, maintain private property rights of agricultural producers, and allow density transfers between properties.

Other non-regulatory approaches that the County can take to help achieve some of the land use goals range from fairly simple to more complex. They can be of great benefit to educate the public and developers about what Carbon County envisions by way of future development, and these approaches may also highlight where further attention is needed before certain goals can be obtained. For example, the County may consider publishing a developer's handbook. This would be a straight-forward and user-friendly handbook that explains County requirements without the use of jargon. Related regulations of the state and other jurisdictions could also be included in the handbook.

Along the same lines, the County could develop informational booklets that help people plan better projects through non-regulatory standards. The County has the basis for this already with its Code of the West. That booklet could be updated to more fully identify Carbon County's land use goals, future land use map, and design guidelines for rural development.



*Photo by: Irene Archibald*

A scenic resources assessment is recommended as an action item. This is another non-regulatory tool that is very useful for achieving the goal to sustain scenic areas in the County. A systematic inventory and evaluation of scenic resources would be conducted, which is essential to both reduce subjectivity and increase input of local values in ranking scenic resources. The end result will be of great assistance in reviewing the visual impacts of pending development projects. It will require consideration time, effort, and cost to complete the assessment. Still, the assessment would be much more defensible than ad-hoc decisions about visual impacts.

Water issues are in evidence throughout the Plan's goals, strategies, and action items. A determination of the cumulative effects of development on water supply would be greatly enhanced by hydrologic and geologic information that can be used to develop estimates of available water supplies versus demand. Some of the information exists, although it is conceivable that more data is needed in order to truly identify areas where water may be a limiting factor on development. This too would be a costly endeavor.

Additional action items call for the creation of new county standards to help achieve the goals. They focus in part on preparing standards for energy development, sensitive groundwater sites, rural land uses, agricultural zoning district, innovative subdivision design, overlay district for open space and wildlife areas, density bonuses, and industrial sites.

#### Plan Review and Update

The Carbon County Land Use Plan is intended to be used and updated on a routine three to five year basis. Some goals will take longer to accomplish than others, while others can be pursued more aggressively and thus achieved faster.

Those actions that are recommended to be accomplished in the first three years are presented in the Appendix along with their description, implementing agencies, and coordinating bodies. The personnel and resources needed to implement each action varies, along with the potential sources of funding. Financial resources and assistance may be obtained from Carbon County, local governments, special interest groups, state and federal agencies, and non-profit organizations.

Finally, as action items are completed, they can be removed from the list and new tasks taken from the Goals, Strategies, and Actions chapter can be inserted in their place. It is important that the Plan continue to move forward so that all of its goals may be achieved. By doing so, Carbon County can look forward to future land use development that is compatible with local values and worthy of the county.

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## **CARBON COUNTY LAND USE PLAN**

### **APPENDICES**

1. Summary of Action Implementation Items – Years 1-3
2. Survey Results Report

## Summary of Action Implementation Items – Years 1-3

Action	Description	Implementing Agency	Coordination With	Status
Communication	Regular meetings with energy companies for project mitigation	Carbon County Planning and Zoning Carbon County Board of Commissioners	Energy companies, land owners, BLM	
Coordination	Participate in federal agency comment periods	Carbon County Board of Commissioners	USFS, BLM, Bureau of Reclamation	
Coordination	County agreement with State DEQ to allow county approval of individual septic systems	Carbon County Board of Commissioners	State Department of Environmental Quality	
Coordination	Survey county residents regarding areas of scenic value	Carbon County Planning and Zoning Carbon County Board of Commissioners		
Coordination	Develop methods for joint planning between towns and county	Incorporated city and towns Carbon County Board of Commissioners		
Coordination	Review/develop agreements for development adjoining incorporated areas	Incorporated city and towns Carbon County Board of Commissioners		
Industry	Standards to mitigate industrial impacts	Carbon County Planning and Zoning Carbon County Board of Commissioners	BLM, DEQ, energy companies, industries	
Mapping	Sensitive groundwater areas, community watersheds and wellheads	Incorporated city and towns Carbon County Board of Commissioners	Rawlins, Baggs, Dixon, Elk Mountain, Encampment, Hanna, Medicine Bow, Riverside, Saratoga, Sinclair	
Recreation	Pursue access to public lands through easements, approvals, and land purchases	Carbon County Planning and Zoning Carbon County Board of Commissioners		
Revise standards	Setbacks from water edges and storm-water runoff mitigation	Carbon County Planning and Zoning Carbon County Board of Commissioners	Developers, land owners, public agencies	
Subdivision	Amend county subdivision resolution to comply with plan	Carbon County Planning and Zoning Carbon County Board of Commissioners		
Zoning	Revise county zoning resolution and develop zoning map that complies with plan	Carbon County Planning and Zoning Carbon County Board of Commissioners		

Action	Description	Implementing Agency	Coordination With	Status
Zoning incentives	Density bonuses and clustering standards for new residential development	Carbon County Planning and Zoning Carbon County Board of Commissioners	Developers, land owners	
Zoning overlay	Overlay map for open space, scenic, and wildlife areas	Carbon County Planning and Zoning Carbon County Board of Commissioners	Wyoming Game and Fish, US Fish and Wildlife Service, Conservation Districts	
Zoning standards	Standards for alternative energy development	Carbon County Planning and Zoning Carbon County Board of Commissioners		

