Western Montana Economic Developers'

Collaboration on Forest Products Industries

7/1/2010

EQC
JULY 22, 2010
EXHIBIT 5

The Regional Innovation Grant (RIG) was a product of the Montana Department of Labor. The task was to turn on the Counties of Lincoln, Flathead, Sanders, Lake, Mineral, Ravalli and Missoula into one economic region, with a focus on workforce and industry development. The reason for the RIG process was because Western Montana is in the process of an economical transition mainly due to the sharp decline in the wood based product industries.

During the RIG process a Forest Advisory Committee was formed under the leadership of the Northwest Economic Development District. The Forest Advisory Committee worked over the summer of 2009 to identify a number of key issues affecting the Forest Product Industry and came up with a series of recommendations. The recommendations were across the board and address local, regional, State and Federal issues.

The Forest Advisory Committee:

- Jennifer Nelson, North West Economic Development District
- Marcy Allen, Bitterroot Economic Development District
- Chuck Roady, Stoltz Lumber
- Dan Daly, Roseburg Forest Products
- Tracy McIntyre, Eureka Rural Development Partners
- Chas Vincent, House Representative and Environomics
- Steve Clairmont, S&K Holding

The Consultant on the project that wrote the two transition strategies papers (Appendix A) was Rich Lane with Camas Creek Enterprises, LLC and Quinn Carver with the Kootenai National Forest joined in an advisory position.

The following is the bullet breakdown of each of the issues and recommendations that the Forest Advisory Committee formed.

RIG Forest Advisory Board Identified Issues and Recommendations

1. There is a need to level the playing field in the forest product industry.

a. Worker's Compensation costs are higher in Montana than in surrounding states. This is a production issue and impacts a number of industries beyond the forest product industry

RECOMMENDATIONS:

- *Reduce Worker's Compensation costs.*
- *Interested parties need to attend hearings and play an active role in legislation. Worker's Compensation is current under review in Economic Affairs Interim Committee, chaired by Senators Brown and Kaene.*
- *Need to help recognize that forest production is manufacturing too*

b. There is an incentive disparity between new and existing businesses. This is a marketing issue.

RECOMMENDATIONS:

- *Provide tax breaks and incentives to all businesses, new **and** existing, this can be accomplished by building on HB 670 which targets retention, tax breaks, and incentives.*
    - *Potential of amending to include additional sidebars that make it more user friendly across all business types*
- *Make all state programs available to new and existing business, e.g. DOC, DOL*
    - *Encourage that retention of jobs is just as important as creating new jobs*
- *Provide new and continue current incumbent workers programs.*
- *Include forestry in the coalition of farmers and ranchers as an agricultural industry.*
- *Forest products needs to be considered an agricultural industry in legislative actions, and included in 2008 Farm Bill and value-added programs.*

2. ***There is a need to right size new and existing facilities. This is a supply, production, and marketing issue***

    a. *Identify economy of scale and diminishing return based on resource availability, location, transportation costs- both monetary and carbon outputs*

    RECOMMENDATIONS:

    - *Consider starting small and identify expansion options*
    - *Analyze for positive and negative impacts e.g. carbon footprint, impacts to existing facilities, investment costs with market returns*
    - *Consideration of flex fuel investment?*

    b. *Strategic location of facilities*

    RECOMMENDATIONS:

    - *Make an emphasis on retention of existing infrastructure*
    - *Recognize limitations of current existing sites, including hauling costs and market destinations*
    - *Work with local economic development groups to align complimentary businesses, e.g. co-location, alignment of the facility and the value added/residual markets.*
    - *Retain and develop transportation routes, including rail lines and links*

3. ***NEPA –***

    a. *This is a federal issue that plays into the availability of timber supply.*

    RECOMMENDATIONS

    - *Encourage the State to continue working on cooperative/coordination through the HB 44*

4. ***The timber base and habitat in the State is declining as a result of sale of land for other uses.***

RECOMMENDATIONS

- *The State need to be active in timberland and habitat retention*
- *Need real estate full disclosure laws*
- *The State should play a role in facilitating access rights and traditional use of federal, state and private lands*

5. ***There is a need to connect the utility companies and co-ops to the potential of wood as an alternative energy.***

RECOMMENDATIONS:

- *The State needs to take the lead in fostering relationships between electrical co-ops, utilities and energy producers*
- *Public Service Commission needs to help address barriers to successful implementation of biomass generation, as transmission is critical. They also need to assist with generation and supply agreements.*
- *Need to develop a "green certification" of forested lands and/or logging companies in order to sale renewable/green energy*
    - *ERDP is working on developing this type of training through a partnership with the USFS, MSU Extension, and State Agencies.*

6. ***There is a critical need to address supply availability.***

RECOMMENDATIONS:

** note: some of the following recommendations are not specifically tied to supply as much as interacting with the Federal Forest Service and also deals with tourism and recreational industry retention/development*

- *Allow for State management of some Forest Service lands, use of DNRC expertise on FS lands, as FS is lacking the resources and expertise to get the job done.*
- *Encourage FS use of in-house NEPA work rather than contracting NEPA.*
- *Encourage FS use of large scale projects, service contract with imbedded timber sales, and longer time frames for stewardship and other processes that result in longer contract periods and longer supply chain intervals*
    - *Concern on bonding issues and long term administration of contracting will need to be address*
    - *Possible solution is to look at Workforce Cooperatives- Yaak Valley Forest Council is working on this in the Troy, Montana area and recently Northwest Connections in Seeley Swan have shown an interest in cooperative development.*
- *Enact H.B. 44 and H.B. 139*
    - *Requiring the DNRC to actively represent the State of Montana interests in federal forest management of public lands, including planning and policy*

process, cooperate, coordinate and enter into agreements with federal agencies, and act as interveners in litigation and appeals on federal forest management projects.

- *Require the development of a State wide land use planning process with the Federal Forest Service including travel and recreational planning*

- *Encourage the continued staffing and funding of the PTAC programs to assist in developing contracting*
- *Encourage the State to have an active role, in partnership with MACO in supporting the Rural Schools Funding Act*
- *Tie in the importance of the Forest Product Industry to the Tourism/Recreational Industries*
  - *Fire impacts, snowmobiling access, road closures etc…*
- *Understand that bonding plays a critical role in bid contracting and currently only one company will bond timber contracts*
  - *A possible solution is the cooperative model*
- *There is difficulty in securing financing – including securing bank loans, loan guarantees, RLF, and bonding.*
  - *Use the WPIRS revolving loan fund as a loan guarantee account*
  - *Allow power provider or producer to utilize CREB's (renewable energy bonds)*
  - *There is a need for the State to provide ways to finance forest product driven energy producers.*
- *There is a need to promote forest health across the State*
  - *Utilization of landscape scale projects*
  - *Prevention – vs.- reaction – wildfire/beetles (we know how to mitigate both)*

7. *There are gaps in technology availability*

a. *Processing of small diameter wood, to get it out of the woods economically.*

RECOMMENDATIONS:

- *Encourage Entrepreneurs to develop alternatives on helicopter ground (steep or sensitive land), efficient debarking/delimbing mechanism for small trees, development cellulosic ethanol, and other bio-fuels*
- *The State needs to provide incentives to and encourage the university system and entrepreneurs to develop and market technologies that aid the utilization of small diameter forest products.*

b. *Cost of technology*

RECOMMENDATIONS:

- *Failure or inability to upgrade, lack of capital for improvements*
- *There is a need to view logging more like agriculture.*
- *Allow for production and investment tax credits*
- *Allow for the same credits in alternative energy production regardless of the technology. Currently wind, solar, and geothermal have a higher allowance per kW than biomass.*

- *Utilize coal tax receipts for research and development in all energy fields, utilizing the university system, including partnerships with other leading universities and companies in the biomass energy fields.*
- *Encourage the State to continue supporting the WIPRS program, with possible amendments to make it more user friendly for the small operations*

8. Economics of the timber market

RECOMMENDATIONS:

- *Diversify the market. Recognize the cyclic nature of the timber market and diversify for stabilization, including energy i.e. bio-fuels, power production, timber, pellets, paper, etc. (think of investment portfolio)*
  - *Encourage value-added in the areas adjacent to the raw material supply-build upon businesses to development as many products as possible before shipping out raw material*
- *Develop long-term supply. Recognize that long-term supply availability allows for long-term planning, capital improvements, investment appeal, and retention of facility.*
  - *Failure or inability to upgrade results in production losses.*
- *Create brand/niche/markets and develop "Best Value". Recognize limitations of Montana timber resource, higher production costs due to distance and topography, location/transportation costs (not near urban areas), workmen's comp costs, age of workforce (benefit payouts), higher wage base.*
- *Cost for Forest Service is higher in R1 over those of SE forests, because of greater number of litigations, and analysis (ESA issues)*

9. ***There is a loss of skills/trades/expertise in all forestry and forest products related fields, including state and federal agencies, through attrition and career changes. And too risky of a field to develop a career.***

RECOMMENDATIONS:

- *Encourage the Forest Service to rebuild the agency at the district level.*
- *Provide stability to the industry through long term supply agreements.*
- *Diversify the industry through energy development and alternative forest products markets to create stability.*
- *Use incentives to encourage wood products development.*
- *Rebrand the forest products market to reflect "green industry" i.e. Wood Is Good program*
- *Business needs to be involved with training and education needs. Continue dialogs between business and colleges to identify workforce needs.*
- *Continue to expand and fund Made in Montana and Come Home Montana programs.*

10. There is a need to develop and diversify markets.

RECOMMENDATIONS:

- *State needs to support retention and use old mills sites and industrial parks for development of new and alternative markets.*

- *State support for a large scale support and marketing approach, including*
    - *Using state universities, economic development groups and state departments to help create alternative markets, and marketing plans.*
    - *Conduct studies or compile information to identify and use the unique characteristics of Montana wood, e.g. tight grain larch, fire killed, beetle killed, blue stain*
    - *Research timber resource and timber markets, both nationally and internationally to identify niche and unique markets*
    - *Develop the export market, a large opportunity with Kyoto Accords*
    - *Market "efficiency of use" aspect and "green" aspects*
    - *Support the pellet market, both commercial and residential*
    - *Support diversifying log house market into low cost housing using smaller diameter trees and smaller more efficient floor plans.*

11. Disparity between stumpage prices and market prices.

a. *Stumpage prices are not reflective of market, and are affecting the logger's ability to operate. Bonding and fixed operating costs remain the same or are increasing.*
b. *Lower stumpage prices result in deferred treatments for landowners (forest health) and lower income for landowners.*

12. There is a need to change social perceptions of harvesting timber.

RECOMMENDATIONS:

- *The State can help by:*
    - *supporting and provide input to the current FS rebranding effort*
        - *supporting and provide green initiatives to industry*
        - *support and help market green aspect, promote and yoke loggers as stewards*
        - *supporting and participating in collaborative agreements*
        - *leveraging partnerships with sportsmen, agricultural producers, tourism and recreational industries*
        - *supporting forestry (forest health) and wood products use education, e.g. "Wood is Good". Tie consumptive lifestyle and carbon with renewable resource use and sequestration.*
        - *providing active participation and dialog in regard to federal policy, injunction relief, and bonding issues*

13. There is a "Conflict Industry" at play that impacts the Forest Production Industry. This industry is not based on science or health of forest but more on the litigation and collaboration is difficult to accomplish with parties that are more interested in conflict than collaboration.

RECOMMENDATIONS:

- *Legal system and litigation*
    - *Use HB-139, HB-44 as representation of the people of the state of Montana in regard to timber litigation, invoke intervener status*
    - *Develop legislation that holds conflict industry accountable in litigation*
    - *Revisit Equal Access to Justice Act and the judgment fund*

- *Policies and process*
  - *State's active support of Cat. Ex. 10 and tie to HFRA and emergency management*
  - *Promotion of stewardship and collaboration*
  - *Incorporate habitat improvement into recovery plans*
  - *Invoke the Tribal Forest Recovery Act to treat forests near cultural sites*

14. Improve communications

RECOMMENDATIONS:

- *Ground truth prescriptions*
- *Involvement of stakeholder and other interested parties at initial stages*
- *Utilize the Society of American Foresters to promote understanding of forest issues*
- *Build a cooperative status amongst the different Forest Based organizations to work together and funnel funding into a re-branding effort with State agencies*
- *Respect of professionals and their education and skills*
- *Education from professionals*
- *Encourage the economic development community to become further educated on the transition of the Forest Product Industry and new technologies that can play a role in overall improvement of forest and community health.*

Information from the Forest Advisory Committee was compiled and used to complete the "*Western Montana Regional Innovation Grant Findings and Recommendation*" (appendix B). Another important component within the RIG process was the development of the RIG Core Leadership Group's white papers, specifically the "*Exploring Forestry Based Products and Forest Stewardship Industry Clusters in Western Montana*" (appendix C).

All of these documents from the Transition Papers that Rich Lane wrote to the whitepapers that the RIG Core Group's white paper lead to a partnership amongst Economic Development organizations (EDO) in the western and central Montana that saw the opportunity to take the RIG and Forest Advisory Committee work a step further. The collaboration included:

- Chad Delong, Missoula Area Economic Development Authority
- Rich Lane, Camas Creek Enterprises
- Chas Vincent, House Representative #2
- Tracy McIntyre, Eureka Rural Development Partners
- Warren Harden, Headwaters RC&D

The EDO collaboration efforts pulled in a number of resources and analyzed each of the recommendations to determine if there were key areas that the State of Montana, specifically the Interim Environmental Quality Council could play a role in implementing and supporting the Forest Products transition. The EDO collaboration team developed a series of overarching themes to the work they did:

1. Forest Based Products are still a viable economical engine for the State of Montana,
2. Wood is a versatile raw material that has a multiple of uses and value added potential,

3. Wood has a role in energy production from heat to electricity and all points in between,
4. There is hi-technology potential for wood materials and Montana is on the verge of developing niche markets around emerging technology,
5. The Forest Based industries is directly tied to the management and health of private, State and Federal Forest lands and impacts the Recreational and Tourism industries,
6. That the EDO collaboration is not strictly related to the development of biomass in terms of co-generation but as a means to develop products that reach a variety of markets,
7. Make wood out of Montana a primary and quality commodity regardless of the product,
8. Build upon existing programs and activities in the Region and State,
9. There is a need to retain and expand on existing infrastructure in order to sustain a Forest Based industry in the State of Montana and,
10. Montana has a unique opportunity to facilitate the growth in Forest Products Industries.

Overall the EDO collaboration team fully supports all of the Forest Advisory Committee's recommendations as they were presented in the previous pages. The results of the EDO collaboration led to the following which was presented to the Environmental Quality Council on July 22nd, 2010.

- The most critical issue remains the ability to secure a predictable supply of product. There have been a number of discussions and presentations on the option of doing long term contracts, mimicking the 10 year stewardship concept that occurred in Arizona. The EDO Collaboration came up with a number of possible solutions but the one that seemed most doable was to work with the Montana DNRC to identify a pilot program to run a 10 year stewardship contract. This pilot program would pull in partners across the Western and Central region of Montana including environmental, economic and community developers, mills and logging community, wood production businesses, etc. If a long term pilot project was successful the State could use its success in promoting long term contracts on the Federal Level as well as give security to investors and financial institutions to invest in Montana wood ventures.

  Urge the State to complete an inventory on the dead trees (standing and regeneration) on the State lands in order to quantify the amount of materials available. The EDO team recognizes that there was a start to analyzing the state lands during the recent study done by NorthWestern Energy and Montana Community Development Corporation; "*Developing a Business Case for Sustainable Biomass Generation: A Regional Model for Western Montana.*" This study is a great place to start in the analysis of what dead material is available for economic development in the Forest Product Industries including Combine Heat and Power (CHP) plants and other small diameter/woody biomass products. An idea that the EDO team came up with is developing a partnership with local development organizations to potentially utilize workforce development programs and funding opportunities to complete the inventory work. This in turn would also be providing a training program to displaced workers on new skill sets and provide further opportunity to the Montana forest based workforce.

  During the State Legislature 2009 there were two Bills (HB 139 and HB 44) that provide a great stepping stone for the State to have a voice on the Federal Forest Lands in Montana. The EDO collaboration team saw both as having a huge impact in the continued dialog and forest collaboration efforts that are taking place on the local level. The EDO team wants to encourage the State to utilize these acts and look at ways to expand the use of them to break the "log jam" on federal lands.

- The EDO team saw an opportunity for the State to help coordinate communications between players in the Forest Industries across all skill sets and production areas, including energy producers and utility providers as well as community and economic development efforts. This has already started with the recent Energy workshop held by DEQ and DNRC in Missoula on July 14th, 2010. That workshop put potential producers and utilities in the same room hearing the same information which is ideal. An idea is possibly hosting training on forest and community collaboration efforts that would then tie together all the local efforts, like the Kootenai Forest Stakeholders and Blackfoot Challenge, together to learn from each other and develop a regional network.

- The continuation of State programs is vital to the future of the Montana Forest Product Industries. These programs such as the WIPRS, SBDC, PTAC, Research and Commercialization, and the workforce training programs play an important role in the transition of the forest based industries. The programs provides training dollars for Montana workers who are transitioning into new areas, business capital for the retention of the current infrastructure and potential expansion ventures, offers technical assistance to help contractors and business owners complete bidding requests and business planning, and overall are key to sustaining the Forest Product Industries.

- The EDO team worked on coming up with ideas and recommendations that would bring wood into a forefront of alternative energy. The main problem identified was that the cost of using woody materials for electricity production remains high. However the EDO team had a discussion with John Fitzpatrick with NorthWestern Energy on splitting the Renewable Energy Credit amongst the providers and utilities. The EDO team believes this has potential and would urge the State to look into that further. Though there will be some conflict arising it may be the answer to lower the cost of woody biomass generation and provide a firming agent for the State wind production.

  The EDO team references back to the work that NorthWestern Energy and Montana Community Development Corporation did in their recent study on developing a sustainable biomass generation in Western Montana. The EDO team has not had an opportunity to fully review and discuss the report that was generated but from the brief assessment it appears that the report covered all the critical components and the EDO team felt it would be repetitive to further discuss in this report.

- Included in the discussion of energy the EDO team saw a number of potential wood based opportunities in the field of energy from heat to fuel to electricity. The diversity of woody biomass is vast and the EDO team wants to see the continued efforts to sustain and develop ALL wood based projects. The EDO team identified a number of emerging technologies like Tricon's venture in St. Regis area. From the EDO's experience there are a variety of products being researched from synthetic diesel from wood chips to large CHP plants. The goal for the EDO's is to provide a flexible and supportive business climate that these emerging technologies can thrive in and that private investors what to invest in. The EDO team urges the State to continue to invest in programs like Research and Commercialization, MSU Extension, and education systems as a way to identify and support the emerging technologies.

- Other areas where the EDO team sees potential development in the Wood Industry is in the housing markets. As the housing market continues to recover there is opportunity for Montana wood industries to mimic building practices from European Countries

utilizing small diameter wood materials. These European technologies in the construction industry are sustainable and green building practices. In order for Montana to compete in this growing field, the State needs to continue to support and fund Economic Development programs that provide technical assistance to the entrepreneur start up and capital investment.

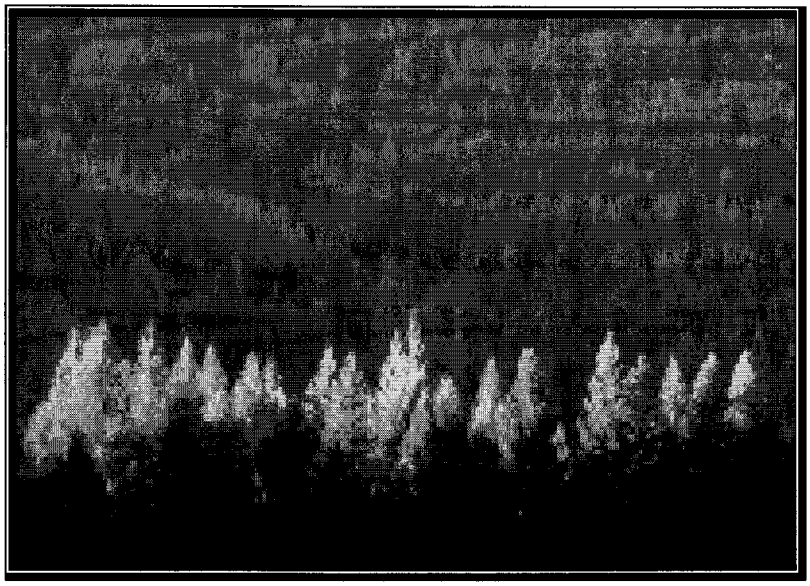
- All three EDO's (Missoula, Butte, and Eureka) that were involved in the EDO collaboration team are working at building local exchange systems amongst wood based businesses. ERDP in Eureka is working on developing a Value-Added Wood Business Park with a Wood Development Center with an incubator type program. MAEDA is working with the Stimson Site in Bonner to foster emerging companies. The idea is to provide a business atmosphere that is built on sharing resources and available materials across the Forest Product Industry. This relates to fostering relationships between all the players in the Forestry related industries from mills and contractors to all economic and community development organization to service providers like Montana Logging Association to State agencies. By creating a strong network of people in the Forest Product Industry (in one form or another) the State can create a united approach in the efforts to retain and expand the Montana Forest Product Industries.

APPENDIX:

A. Transition Strategies for Western Montana's Forest Products Industry
    a. Report #1: Forest Restoration and Stewardship Opportunities
    b. Report #2: Retaining & Expanding Wood-based Businesses
B. Western Montana Regional Innovation Grant (RIG): A Regional Approach to Workforce, Economic and Education Development in Montana
C. Montanan RIG Core Leadership Group: Exploring Forestry Based Products and Forest Stewardship Industry Cluster in Western Montana

Transition Strategies for Western Montana's Forest Products Industry

Report # 1 –
Forest Restoration & Stewardship Opportunities



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1.0 Executive Summary

There are 10.3 million acres of private and public forests in the seven counties of western Montana that comprise the project's Target Study Area (TSA). Forty percent (40%) of the forested land in Montana is located within these seven counties (Flathead, Lake, Lincoln, Mineral, Missoula, Ravalli and Sanders). These forests provide many social, recreational, ecological and economic benefits to the 295,000 residents that live within the TSA and to those who visit. Commercial timber harvest on these lands has historically and continues to annually generate significant amounts of wood fiber available for utilization by the area's existing forest products infrastructure. This industry remains an important component of western Montana's economic base.

The U.S. Forest Service administers the largest percentage (67.4%) of the Timberland in the TSA. Forest management that involves timber harvest is allowed on 45% of National Forest System lands. About 4.5 million acres are reserved for other uses, including 1.95 million acres of land within the National Wilderness System.

Private forest lands are the second largest ownership category. Twenty-seven percent (27%) of the forest land within the TSA is owned by private entities that include tribal governments, forest products companies, individual resident and out-of-state citizens and non-profit conservation organizations. Private lands have historically provided the majority of commercial wood fiber in the TSA.

Significant forest health issues are currently impacting the TSA's forest lands. Forest fires have burned 1.5 million (15%) of the TSA's forested acres during the last ten years. Forest insects affected 263,000 acres in 2008. These natural forces diminish forest productivity, impact property values and also affect air & water quality, wildlife habitat, outdoor recreation and tourism. Sustainable management of the TSA's forests also represents a way to protect the health of the planet through the sequestration of carbon.

Appropriate levels of sustainable forest management activities are required to mitigate the factors that are negatively affecting the TSA's forests and associated resources. Applied forest restoration and stewardship methodologies represent an opportunity to protect and enhance those resources. Utilization of the wood fiber generated from these practices will be examined in Report #2 of this project.

2.0 Introduction & Objectives

The "Transition Strategies for the Montana Forest Products Industry" project was structured to supplement and enhance the economic and workforce development efforts undertaken by the numerous entities involved in the Montana Region One Rural Innovation Grant (RIG) process. The major objective of this project is to help facilitate the long-term retention of western Montana's forest-based manufacturing infrastructure supply chain and its associated labor force through sustainable forest management of public and private lands. It is also intended to help foster the accelerated regional expansion of value-added, non-cyclical, carbon-neutral wood-products manufacturing, bio-energy production and associated workforce opportunities when and where feasible.

The project addresses an important but currently threatened natural resource-based manufacturing activity currently providing significant direct and indirect employment throughout the seven counties in Montana that comprise the Target Study Area (Flathead, Lake, Lincoln, Mineral, Missoula, Ravalli and Sanders). Todd Morgan, director of the University of Montana's Bureau of Business and Economic Research, reported to the Missoulian on February 21, 2009, that in the fourth quarter of 2008, "...compared to 2005, when U.S. housings starts were at their peak, Montana lumber production has fallen by 32 percent". He also said there were 2,716 people employed at Montana timber processing facilities at the end of 2008 and that "Total 2008 production wages have declined 17 percent since 2005, from $135.6 million to $112.2 million. Those employment numbers and wages do not include the impacts on several thousand people who work in logging, trucking and other jobs related to the industry.

In addition to important economic benefits, this industry also provides the infra-structure needed to properly manage the ten million acres of forests within the Target Study Area (TSA). These forests, and associated resources, help shape the lifestyles of the 295,000 people residing in the TSA and also lure many other in-state and non-resident visitors at all times of the year. Forest habitats are home to a diverse array of wildlife species and provide clear, clean water for native fisheries, agricultural activities and drinking water. However, Mother Nature is not always kind, and when undesirable forest or climatic conditions exist, events such as wildfires or forest insect epidemics often result.

This phase of the Project will evaluate the opportunities to sustain the critical balances between ecological, economic and social issues by applying

suitable restoration and stewardship practices on public and private forest lands in western Montana. It will identify the potential to achieve combinations of public and private sector benefits related to:

- Forest Fuels Mitigation
- Reduction of Fire Suppression & Rehabilitation Expenses
- Insect & Disease Control
- Fisheries and Wildlife Habitat Protection & Enhancement
- Outdoor recreation & Tourism
- Carbon Sequestration

3.0 Forest Resource Characteristics

Montana is the fourth largest state in the United States with a total land and water area of 94.1 million acres. Twenty five million acres or twenty-seven percent (27%) of the State is forested. Of this acreage, 19.8 million acres are classified as "non-reserved timberland". Certain forested areas, such as federally-designated Wilderness areas, Research Natural Areas, designated Wild and Scenic Rivers and National Parks are permanently "reserved".

The seven county Target Study Area (TSA) of western Montana is more heavily forested than the rest of the State – 82% of the TSA is forested. There are 10.3 million forested acres within the TSA - 40% of Montana's forested land is contained within these seven counties. The TSA is best characterized as "forested" – it also has 25% of Montana's water as measured by surface area. The county-level distribution of the TSA's forests is depicted below:

Table 1– County-Level Forest Distribution of TSA

County	Forest (Acres)	Percent of Total
Flathead	2,780,033	26.9%
Lake	550,401	5.3%
Lincoln	2,175,374	21.0%
Mineral	743,248	7.2%
Missoula	1,409,899	13.6%
Ravalli	1,241,699	12.0%
Sanders	1,446,585	14.0%
TOTAL	10,347,239	100.0%

3.1 Timberland

Forest land is a specific forest resource classification used to define areas where trees are the predominant vegetation on the land. Within that classification, a separate sub-set of forest land is known as Timberland, a category based on the land's potential to grow trees. Timberland is that portion of forest land that is capable of producing at least 20 cubic feet of growth per acre per year. Eighty-four percent (84%) or 8.66 million acres of the TSA's forest land is classified as Timberland.

3.2 Timberland Ownership

There are five major categories of Timberland ownership in the TSA. They are:

Table 2. Timberland Ownership

Category	Acres	% of Total
U.S. Forest Service	5,836,533	67.4%
Bureau of Land Management	12,222	0.1%
State of Montana	488,654	5.6%
County	8,999	0.1%
Private	2,314,341	26.7%
TSA Total	8,660,749	99.9%

The U.S. Forest Service administers the largest percentage (67.4%) of the Timberland in the TSA. These are lands in the Kootenai, Flathead, Lolo and Bitterroot National Forests. Private lands, the second largest ownership category at 26.7%, are represented by Tribal timberland, Industrial timberland (such as Plum Creek Timber Company & Stoltze Land & Lumber) and Non-Industrial Private Landowners.

Timberland acres by county for each of the major ownerships are detailed below:

Table 3 – County-Level Timberland Ownership Distribution

County	USFS	BLM	State	County	Private
Flathead	1,074,479	0	162,350	0	457,849
Lake	121,948	0	45,113	0	305,873
Lincoln	1,723,623	0	46,630	0	364,322
Mineral	628,839	0	25,461	0	88,948
Missoula	570,518	12,222	139,053	8,999	535,503
Ravalli	835,710	0	33,932	0	108,779
Sanders	881,416	0	36,115	0	453,067
TSA Total	5,836,533	12,222	488,654	8,999	2,314,341

There are 9,100 non-industrial private landowners (NIPFs) who own 914,000 acres of private forest land in the TSA. The county-level data is presented below and can be accessed via the Montana Cadastral Database at: http://nris.mt.gov/nsdi/nris/cadastral.html

Table 4 – Non-Industrial Timberland Ownership

County	NIPF Acres	# of Landowners
Flathead	408,394	2,546
Lake	56,709	525
Lincoln	112,547	1,775
Mineral	32,865	451
Missoula	117,773	1,435
Sanders	83,968	961
Ravalli	101,778	1,410
Total	914,034	9,103

Twenty-five percent (25%) of these acres are held by individuals living out-of-state.

Lands classified as Industrial Timberland within the TSA are owned by Plum Creek Timber Company, Inc., Stimson Lumber Company, Inc., F.H. Stoltze Land and Lumber Company, RY Timber Inc. and Montana Forest Products, LLC. The county-level distribution of industrial forest in the TSA is illustrated below:

Table 5 - Industrial Timberland Ownership

County	Industrial Timberland (Acres)	Percent
Flathead	677,059	38.80%
Lake	100,744	5.80%
Lincoln	334,475	19.20%
Mineral	57,338	3.30%
Missoula	397,369	22.80%
Sanders	170,107	9.80%
Ravalli	6,597	0.40%
Total	1,743,689	100%

Major changes are currently affecting industrial timberland ownership patterns in and adjacent to the TSA. The Blackfoot Community Project, a partnership between the Blackfoot Challenge, The Nature Conservancy and Plum Creek Timber Company started with the purchase of 88,000 acres of Plum Creek forest land by The Nature Conservancy. Guided by a collaborative process, these lands are being resold to public agencies and private owners to help keep timber and conservation values intact. Five thousand, six hundred acres (5,600 acres) of this former industrial forest land will be owned by the Blackfoot Challenge and managed by a 15-member Council. Uses of this land (known as the Blackfoot Community Conservation Area) include public hunting access, regulated motorized recreation and the use of sustainable forestry practices to achieve desired forest and range conditions.

The Montana Legacy Project involves another significant change in timberland ownership within the TSA. In partnership, The Nature Conservancy and the Trust for Public Land are purchasing 320,000 acres of Plum Creek timberland in western Montana. The goals of this project are to protect clean water and fish & wildlife habitat, keep forests in productive timber management and promote public access for outdoor recreation.

3.3 Timberland Growing Stock

Forest growing stock is a metric used to quantify the volume of live trees. Two commonly used tree volume measurements are board feet and cubic feet.

The board foot measurement is a specialized unit of volume for measuring lumber in the United States and Canada. This unit of measure has also been adopted to measure the volume in trees and logs that are of sufficient size to be classified as sawtimber. Trees that are nine inches DBH or larger are included in this measurement system. DBH is a term used to standardize the location at which a tree's diameter is measured. It stands for Diameter-at-Breast Height, which has been determined to be 4.5 feet from ground level.

There are 83.9 billion board feet of softwood sawtimber growing stock on forest lands within the TSA. This amount represents 55% of the total sawtimber growing stock in the state of Montana. Douglas-fir is the most common tree species, representing 28% of the total sawtimber growing stock in the TSA. Western larch is the second most common tree species in the TSA, followed by Engelmann spruce, True firs and western hemlock, Ponderosa pine and Lodgepole pine.

A cubic foot of growing stock is a solid cube of wood that is one foot in length on all sides of the cube. This metric has been adopted in recent years partly in order to include the volume of all trees that are of sufficient size to be classified as commercial products. Trees that are five inches DBH or larger are included in this measurement system. There are 19.953 billion cubic feet of commercially sized softwood trees growing within the TSA.

3.4 Forest Productivity

Forest productivity is a quantitative metric used to classify the productivity potential of a forested site. Forest productivity is primarily dependent upon soil type and the amount of moisture a site receives. Forest productivity is expressed in cubic feet per acre per year. The timberland in the TSA is significantly more productive than timberland in other areas of Montana. Sixty-six percent (66%) of the timberland in the TSA can produce in excess of 50 cubic feet per acre per year. All of the 150,000 acres of timberland in Montana that can produce more than 120 cubic feet per acre per year are located within the TSA.

3.5 Net Annual Growth

Forest productivity is correlated with annual growth, but net annual growth is also a function of actual site stocking levels and the negative impacts of wildfire, forest insects and disease that either slow tree growth or are the cause of tree mortality. Net annual growth of sawtimber within the TSA timberland is 1.572 billion board feet per year.

3.6 Harvest Levels

The following table illustrates the annual timber harvest amounts in the State of Montana, by ownership. One MMBF equals one million board feet.

Table 6. Montana Timber Harvest History by Ownership Class (MMBF)

Group	Ownership	1976	1981	1988	1993	1998
Private	NIPF	222	209	235	353	263
	Industry	398	352	398	305	354
	Tribal	38	23	57	36	24
	Total Private	658	584	690	694	641
	% of Total	57%	56%	56%	69%	74%
Public	USFS	483	413	497	282	191
	Other Public	20	39	50	25	38
	Total Public	503	452	547	307	229
	% of Total	43%	44%	44%	31%	26%
	Total	1,161	1,036	1,237	1,001	870

Private lands have historically provided the majority of timber harvest within the TSA. Over the last ten years, private lands have provided approximately 75% of the timber harvest in the TSA.

Table 7. Timber Harvest History, by County, for TSA (MMBF)

COUNTY	1976	1981	1988	1993	1998	2004
Flathead	232	245	255	150	148	156
Lake	42	28	53	53	38	33
Lincoln	293	267	324	208	153	119
Mineral	50	45	40	32	20	41
Missoula	146	120	141	136	129	109
Ravalli	35	41	36	40	23	13
Sanders	153	93	93	107	76	75
TSA Total	951	839	942	726	587	546
MT Total	1,161	1,036	1,237	1,001	870	785
TSA %	82%	81%	76%	73%	67%	70%

The TSA historically provided in excess of 75% of the States timber harvest until recent years, when that amount dropped to 67% in 1998 and then increased slightly to 70%. The forests of the TSA continue to provide the majority of the timber harvest in the State of Montana.

4.0 Forest Health

Forest management involves the process of assessing a forest and acting accordingly to provide for its sustainability. Kolb (2004) describes a healthy forest as "...defined by the natural history of the site and the growth characteristics of the naturally occurring tree species. In general, a healthy forest has a majority of trees that are vigorous and resistant to insects and diseases, and the ability to sustain itself as a forest when affected by wildfire."

The ability of western Montana's forests to remain and/or become healthy, beautiful, resilient and sustainable is directly tied to proper management of forest structure, tree spacing and species composition. Trees in the forest over-story and understory compete for water, sunlight and nutrients - overcrowded stands of old and/or young trees do not grow at optimal rates and thus are more susceptible to forest insects and diseases that further reduce their vigor or result in premature mortality. Forest fuel levels are directly correlated with forest structure and tree density – thick stands of old and/or young trees are more susceptible to wildfire events, especially where

understory trees provide a ladder for ground fires to reach the crowns of larger trees.

Forest conditions in western Montana have been significantly affected by a 60 year cool-wet cycle, wildfire suppression and decreased forest management activity on public lands. The result of these factors across the region is the current predominance of large areas of dense forests consisting of unusually high numbers of shade tolerant small trees in the forest understory. These fuel conditions, combined with a current warm-dry climate shift, have allowed wildfires of uncharacteristic size to develop with tremendous impacts on forest ecosystems, natural resource businesses and property values. The strategic reduction of forest fuels is of paramount importance in order to lessen the negative effects of uncontrolled wildfires.

4.1 Wildfire

It is well documented that wildfire has historically impacted the TSA's forest resources. The changes in forest structure and density noted above, combined with drier, warmer climatic changes, have resulted in an increase in the size and intensity of recent wildfires. Over the last ten years, over four million acres have burned in Montana, with 1.5 million acres (35%) of that land in the TSA. The majority (82%) of wildfire impacts within the TSA have occurred on U.S. Forest Service and other federal lands.

Table 8. Acres burned by Wildfire

Owner	TSA Acres	Montana Acres	TSA Percent
U.S. Forest Service	1,081,360	2,062,443	52%
Other Federal	247,678	816,295	30%
State Lands	120,705	757,652	16%
Private	22,025	542,256	4%
Total	1,471,768	4,178,646	35%

4.2 Wildfire Suppression Costs

The cost of fighting recent wildfires has significantly affected the capability of the U.S. Forest Service to fund other natural resource management programs associated with their annual stewardship objectives. Programs such as weed control, road and trail maintenance, campground maintenance and improvements, pre-commercial thinning and timber sale preparation are

sometimes delayed, as up to 45% of a U.S. Forest Service national budget can be consumed during a prolonged, difficult wildfire season. Fire suppression costs also negatively impact State of Montana budgets.

Over the last five years (2004 – 2008) the total costs to suppress wildfires occurring in the TSA has been $139.8 million, an average of $28 million per year. During that time, 510,514 acres in the TSA were affected by wildfire.

4.3 Forest Insects

The four most prevalent forest insects species affecting forest health in Montana and in the TSA, are, in order of forested acres affected, the Mountain Pine Beetle (*Dendroctonus ponderosae*), the Western Spruce Budworm (*Choristoneura occidentalis*), the Western Balsam Bark Beetle (*Diyocoetes confusus*), and lastly the Douglas-fir Bark Beetle (*Dendroctonus pseudotsugae*). Statewide, these insects impacted 2.4 million acres of forested land in 2008. Within the TSA, 262,885 acres of forest land were affected by these insects. County-level acreage statistics for each insect species are listed below:

Table 9. Forest Insect Infestations

County	Mountain Pine Beetle	Spruce Budworm	Balsam Bark Beetle	Douglas-fir Bark Beetle	Total (acres)
Flathead	27,198	1,602	14,024	7,621	50,445
Lake	7,898	0	2,014	879	10,791
Lincoln	1,640	23,046	1,478	181	26,345
Mineral	24,711	0	41	4	24,756
Missoula	79,605	1,176	2,521	1,849	85,151
Sanders	40,416	11,103	76	55	51,650
Ravalli	9,070	1,162	2,848	667	13,747
Total	190,538	38,089	23,002	11,256	262,885

Mountain Pine Beetle is the primary insect impacting forest health in all counties except for Lincoln County, where the Spruce Budworm is the primary insect. There are significant Western Balsam and Douglas-fir Bark Beetle issues in Flathead County. The below table illustrates that 86% of the forest insect impacts within the TSA are on federal lands.

Table 10. Acres of Infestations

County	Federal	State	Private	Total (acres)
Flathead	45,493	1,425	3,527	50,445
Lake	9,541	407	843	10,791
Lincoln	22,334	101	3,910	26,345
Mineral	23,776	16	964	24,756
Missoula	67,142	6,705	11,304	85,151
Sanders	44,518	1,005	6,127	51,650
Ravalli	13,096	93	558	13,747
Total	225,900	9,752	27,233	262,885
% of Total	86%	4%	10%	100%

4.4 Habitat Restoration & Enhancement

Suitable forest, range and aquatic habitat conditions, on private and public lands, are essential to sustain Montana's fish and wildlife populations. Numerous federal and state agencies, including the U.S. Forest Service, BLM, the U.S. Fish & Wildlife Service and the Montana Department of Fish, Wildlife & Parks invest financial resources aimed to protect, restore and enhance habitat conditions on the lands they manage. Common resource management practices include weed control, prescribed burning, riparian area fencing and stream restoration. These agencies are increasingly integrating appropriate forest management practices into their habitat restoration and enhancement efforts. Such practices include tree thinning, rejuvenation of aspen stands and removal of forest encroachment where coniferous tree growth affects historic grassland and shrub ecosystems.

Non-profit conservation organizations in Montana also invest in fish and wildlife habitat restoration and enhancement efforts through partnerships with federal/state agencies and private landowners. The Rocky Mountain Elk Foundation (RMEF) launched its Habitat Stewardship Services program to accelerate elk habitat enhancement on federal lands managed by the U.S. Forest Service and the Bureau of Land Management. The program's many achievements include the establishment of a Master Stewardship Cost Share Agreement with Region One of the U.S. Forest Service, an accomplishment that provides RMEF with a mechanism to manage Forest Stewardship

projects as a general contractor. As an example, RMEF has recently partnered with the USFS on a Stewardship Project in the Flathead National Forest. The project will enhance wildlife habitat through the selective harvest and thinning of Lodgepole and Ponderosa Pine currently and potentially affected by the Mountain Pine Beetle, reduce tree density in overstocked stands to improve wildlife forage and reduce hazardous fuels, and treat noxious weeds within the project area. Other wildlife conservation groups, such as the Mule Deer Foundation and the National Turkey Federation, are also involved in habitat restoration projects that entail forest management practices.

Forging mutually-beneficial public/private partnerships with private landowners is a key factor in the restoration and enhancement of fish and wildlife habitat. The Big Blackfoot Chapter of Trout Unlimited actively engages private landowners in the TSA to restore native fish habitat, using a combination of private donations and public funding to accomplish mutual objectives. An effort initiated by the U.S. Fish & Wildlife Service in 1987 also promotes land conservation and habitat restoration practices on private lands through its Partners for Fish and Wildlife Program. This program is active in the TSA where its efforts have also benefitted forest resource management.

The USDA Natural Resources and Conservation Service (NRCS) also administer cost-share funding for private lands forest management throughout the TSA. This program has resulted in forest fuels reduction, tree thinning to enhance forest health and aspen rejuvenation.

4.5 Outdoor Recreation & Tourism

Forest health, forest restoration and forest stewardship affects outdoor recreation and tourism. Outdoor recreational opportunities benefit the quality of life for many residents of western Montana. These same opportunities are also attractive to many non-residents – in 2007 more than 10.6 million non-resident tourists visited Montana, according to the University of Montana's Institute for Tourism and Recreation Research (ITR). These visitors also help fuel many local economies. State-wide, non-resident tourists now expend more $1.5 billion annually. Non-resident tourism expenditures within the seven county TSA were $803 million in 2007. The expenditures within these seven counties represent 51% of Montana's total non-resident tourist expenditures.

State-wide, non-resident tourism is increasing at an annual rate slightly in excess of 2% annually, as measured by numbers of non-resident visitors. ITR Research Report 2009-2 states the "Natural disasters such as wildfires that have plagued western Montana nearly every other year since 2000 have been presented to the public as having a bad effect on the tourism industry and hence the economic well-being of the state." ITR data indicates that the rate of increase falls sometimes falls below the 2% per year increase during the severe wildfire years. In 2000, the rate of increase was 0.4%, in 2001 the rate of increase was 0.9% and in 2003 the actual number of visitors fell below the previous year. However, in 2007, which was also a severe wildfire year, the rate of increase was above the average rate of increase, at 2.9%, so no clear correlations are evident.

The Parks Division of the Montana Department of Fish, Wildlife and Parks (FWP) has proactively addressed forest health and human safety concerns at several State Parks within the TSA. FWP has conducted several forest restoration projects at State Parks on Flathead Lake and at Lost Creek State Park near Anaconda. Additionally, the USFS has worked to reduce wildfire threats at several campground sites in the Seeley Lake – Swan Lake corridor.

4.6 Carbon Sequestration

There are many economic, ecological and social benefits achieved as a result of employing sustainable forest management practices. Sustainably managed, healthy forests also help mitigate the effects of increases in greenhouse gases.

Greenhouse Gases – Carbon dioxide (CO_2) is one of several compounds included in the category known as "greenhouse gases". Greenhouse gases include water vapor, carbon dioxide, methane, ozone and chlorofluorocarbons (CFCs). Greenhouse gases absorb infrared radiation emitted by the sun and re-emit that captured heat into the atmosphere. Greenhouse gases are essential to helping determine the Earth's temperature – without greenhouse gases our planet would be about 60 degrees (Fahrenheit) colder than the earth's average temperature of about 45 degrees according to the Pew Center on Global Climate Change. www.pewclimate.org

Greenhouse Effect – Carbon dioxide (CO_2) is released into the atmosphere by the burning of fossil fuels and other natural events. Many scientists believe that the increase in amounts of certain greenhouse gases resulting from the Industrial Revolution and human population growth have caused an

"enhanced greenhouse effect". An enhanced greenhouse effect, combined with changing amounts of solar radiation emitted by the sun, may be the cause of climate change or global warming.

Carbon Sequestration- Carbon sequestration involves storing carbon dioxide through biological, chemical or physical processes in order to mitigate the accumulation of atmospheric CO_2. Methods of carbon capture and storage (CCS) include relatively untried concepts in geologic and marine environments.

Sustainable management of forest lands, reforestation of deforested areas and utilization of manufactured wood products for construction and packaging provide methods to enhance natural sequestration of carbon. Through the natural photosynthetic process, as trees grow they absorb CO_2 and emit oxygen. Trees remove CO_2 from the atmosphere and store it during and after their lifespan. Globally, forests are a major terrestrial carbon "sink", as they store about twice the amount of carbon that currently exists in the atmosphere. In the United States in 2004, forests sequestered about 10.6% of the CO_2 released by the combustion of fossil fuels during that year.

When trees die from natural causes, the stored carbon is slowly released. If trees are consumed during a wildfire, the stored carbon is suddenly released in large amounts. Furthermore, if trees are harvested and their products are utilized, such as a wooden 2x4 in a new home, the stored carbon remains inert within the home and is not released into the atmosphere.

According to a Journal of Forestry article, "Sustainable management practices keep forests growing at a higher rate over a potentially longer period of time, thus providing net sequestration benefits in addition to those of unmanaged forests." Ruddell, Steven; et al (September 2007). "The Role for Sustainably Managed Forests in Climate Change Mitigation". *Journal of Forestry* 105 (6): 314-319. A study conducted by the government of Canada noted that reduction of harvest in Canada's sustainably managed forests would not impact CO_2 emissions due to the combination of stored carbon in manufactured wood products along with the re-growth of harvested forests. At the international level, the Intergovernmental Panel on Climate Change (IPCC) concluded that "a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber fibre or energy from the forest, will generate the largest sustained mitigation benefit."

A description of the potential economic benefits associated with using the TSA's forests to sequester atmospheric CO_2 is included in the Milestone 2 report of this project.

5.0 Forest Restoration & Stewardship

Forest restoration is, according to various groups:

- "A planned process that aims to regain ecological integrity and enhance human wellbeing in deforested or degraded forest landscapes." *WWF/IUCN Forest Landscape Restoration. 2000. WWF/IUCN first international workshop on forest restoration initiative "Forests Reborn", 3-5 July 2000, Segovia, Spain.*
- "A management strategy applied in degraded primary forest areas. Forest restoration aims to restore the forest to its state before degradation (same function, structure and composition)." *ITTO. 2002. ITTO guidelines for the restoration, management and rehabilitation of degraded and secondary tropical forests. ITTO Policy Development Series No 13. ITTO, Yokohama, Japan.*
- The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed."
  Society for Ecological Restoration Science & Policy Working Group. 2002. The SER Primer on Ecological Restoration.
- "Attempting to recreate the original forest ecosystem by reassembling the original complement of plants and animals that once occupied the site." *Lamb, David. 1994. Reforestation of degraded tropical forest lands in the Asia-Pacific region. Journal of Tropical Forest Science 7 (1): 1-7.*

Stephen Ambrose, an American historian, well-known author and Montana forest landowner, writes "In the 19th Century we devoted our best minds to exploring nature. In the 20th Century we devoted ourselves to controlling and harnessing it. In the 21st Century the best minds are working on how to restore nature." At the Governor's Restoration Forum in Billings in 2006, Governor Schweitzer identified the emergence of a new Montana economy, one that provides new business opportunities based largely on work to restore landscapes and ecosystems. Montana's Restoration Initiative acknowledges that ecological integrity is a significant contributor to our quality of life and economic growth and it will seek to improve, enhance, conserve and heal natural environments by helping to reestablish ecological processes.

Forest stewardship is defined as a forest management strategy or activities intended to protect, restore or enhance forest resources. These resources include timber, air quality, water quantity and quality, fish and wildlife habitat & populations, livestock forage, cultural artifacts and recreational opportunities. Together, the restoration and stewardship of Montana's forest lands are a critical component of Montana's future. The following sections describe efforts to restore and steward forests on public and private lands in Montana.

5.1 Forest Restoration & Stewardship – Public Lands

5.1.1 Management Area Designations

There are eleven Management Area Descriptions that now govern how the USFS designates the proper roles for management activities.

1.1 Designated Wilderness – Wilderness areas designated by Congress.

1.2 Recommended Wilderness – USFS has recommended to Congress that these areas be included in the Wilderness System, managed to protect wilderness qualities.

2.1 Designated & Eligible Wild, Scenic & Recreational Rivers – Segments of rivers that Congress has designated or USFS has recommended for inclusion in the Wild, Scenic and Recreational River system

2.2 Backcountry Areas – these are generally roadless landscapes with little or no evidence of recent human-caused disturbance and are generally suitable for non-motorized recreation opportunities. Ecological processes such as natural succession, fire, insects and disease occur with little human interference.

3.1 Special Interest Areas, Special Areas, and Experimental Forests and National Recreation Areas – Special Interest areas protect unique scientific values. Recreation is the underlying value of Special Areas. Experimental Forests provide areas for management-based research. National Recreation Areas are Congressionally-designated areas with high recreation values and are managed to protect and enhance public recreation use.

3.2 Research Natural Areas – The RNA's are a network of representative forest habitats with special or unique characteristics of scientific importance.

3.3 General Forest: Mixed Use Emphasis, Low Intensity Management – management in these areas emphasize ecosystem management goals using a

wide variety of methods. Vegetation is managed at low intensities although initial entries in areas with moderate to high fuels may be managed more intensively to reduce the hazard.

4.1 General Forest: Mixed Use Emphasis, Moderate Intensity Management- These are areas suited for timber production and generally suitable for providing a mix of fish and wildlife habitat, a relatively natural visual quality setting with moderate evidence of human management activity, a wide range of recreational opportunities and a variety of other goods and services.

5.1 General Forest: Mixed Use Emphasis, High Intensity Management – These areas are generally suitable for providing a broad mix of forest products.

5.2 Residential and Forest Intermix – These areas are characterized by public lands intermingled with private lands where private use and developed residential use adjoins National Forest System lands.

6.1 High Use Recreation Complexes or Use Areas – Recreation in the priority of these management areas.

Table 11. National Forest – Acres

Management Area	Lolo	Flathead	Bitterroot	Kootenai	Total	Percent
1.1	120,317	1,020,200	714,786	93,500	1,948,803	23.60%
1.2	263,674	138,785	74,764	158,500	635,723	7.70%
2.1	70,408	86,628	52,702	43,900	253,638	3.10%
2.2	315,538	327,765	293,101	418,800	1,355,204	16.40%
3.1	18,470	29,449	1,187	59,300	108,406	1.30%
3.2	3,730	8,749	6,386	8,400	27,265	0.30%
3.3	211,514	277,925	65,980	1,422,900	1,978,319	24.00%
4.1	802,946	216,621	319,001		1,338,568	16.20%
5.1	176,059	189,967	61,446		427,472	5.20%
5.2	70,449	32,961	0		103,410	1.30%
6.1	27,896	19,105	5,699	12,300	65,000	0.80%
TOTALS	2,081,001	2,348,155	1,595,052	2,217,600	8,241,808	100.00%

Timber management is an objective in Management Areas 3.3, 4.1 and 5.1, which comprises 3,744,359 acres or approximately 45% of National Forest System Lands in the TSA. In Management Area 5.2, which comprises 1.7% of the National Forest System Lands in the TSA, timber harvest is not an objective but is an allowed use for non-timber purposes, such as fuels mitigation or possibly wildlife habitat improvements.

5.1.2 National Fire Plan

Soon after the 2000 wildfire season, the National Fire Plan was passed by the U.S Congress, which authorized federal funding to the Departments of Agriculture and the Department of Interior. The National Fire Plan increased fire suppression capabilities and sought to reduce hazardous fuels to mitigate wildfire hazards on public and private lands. The National Fire Plan also specifically addressed rehabilitation of burned areas and the restoration of landscapes.

5.1.3 Healthy Forests Restoration Act (HFRA)

The HFRA was passed by Congress in 2003. Its purpose is to support projects that implement hazardous fuels reduction treatments in and around at-risk communities or watersheds. One of the results of the HFRA has been the preparation of Community Wildfire Protection Plans (CWPP) by all the counties in the TSA. The CWPPs for Flathead, Lake, Mineral, Missoula and Ravalli counties are located at
www.dnrc.mt.gov/forestry/fire/NFP/cwppdefault.asp

These plans are developed in collaboration with numerous stakeholders, including local government, local fire departments and MT DNRC, with technical support and resource management input provided by the U.S. Forest Service and Bureau of Land Management, where applicable. Through the CWPP process, each county has defined and mapped an area known as the Wildland-Urban Interface (WUI). The WUI is a zone where undeveloped wildland meets or intermingles with man-made structures. Within each county's WUI, priority fuels treatment areas are identified, based on risk assessments that consider potential fire behavior, ignition probability and Fire Regime Condition Classifications.

5.1.4 Integrated Restoration and Protection Strategy

The Northern Region of the U.S. Forest Service (Region One) has developed a comprehensive "Integrated Restoration and Protection Strategy" approach to public lands resource management that will provide:

- Restoration and maintenance of high-value watersheds
- Restoration and maintenance of wildlife habitats, including restoration of more resilient vegetation conditions, where appropriate, to meet ecological and social goals.
- Protection of people, structures and community infra-structure (roads, bridges and power corridors), in and associated with the wildland-urban interface (WUI).

The Integrated Restoration Strategy is directly tied to the U.S. Forest Service's National Strategic Goals, which are:

- Reduce the risk from catastrophic wildland fire. Restore the health of the Nation's forests and grasslands to increase resilience to the effects of wildland fire.
- Reduce the impacts from invasive species. Restore the health of the Nation's forests and grasslands to be resilient to the effects of invasive insects, pathogens, plants and pests.
- Provide outdoor recreational opportunities. Provide high-quality outdoor recreational opportunities on forests and grasslands, while sustaining natural resources, to meet the Nation's recreational demands.
- Help meet energy resource needs. Contribute to meeting the Nation's need for energy.
- Improve watershed conditions. Increase the number of forests and grassland watersheds that are in fully functional hydrologic conditions.
- Conduct mission-related work in addition to that which supports the agency's goals.

The Integrated Restoration Strategy categorizes National Forest lands within the TSA into three groups:

1. Wildland-Urban Interface (WUI)
2. Backcountry (including Wilderness) and
3. Roaded Lands outside of the WUI (Forest & Grassland Matrix)

Several tools are available to help achieve desired conditions for vegetation within these areas:

- Wildland fire use
- Prescribed burning
- Mechanical fuel treatments

- Road restoration
- Elimination or reduction of exotic species.

The outcomes of this Integrated Restoration Strategy are not yet known, but the comprehensive nature of the approach represents a new way of conducting resource management on National Forest System lands.

5.1.5 Federal Lands Forest Stewardship Contracting

Forest management on federal forest lands (U.S. Forest Service (USFS) and Bureau of Land Management (BLM)) is accomplished through its timber sale program in areas where forest health is affected and other ecological, economic and social benefits can be provided. Typically, financial receipts generated from the sale of commercial products such as sawlogs, post & poles and pulp are returned to the general fund of the U.S. Government. Many forest stewardship needs (such as pre-commercial thinning, wildlife habitat enhancement, etc.) are separately funded through the Service Contract budget, when funds are available.

The program known as "Forest Stewardship Contracting" is a relatively new (1999) method for federal agencies to contribute to the development of sustainable rural communities, restore and maintain healthy forest ecosystems, and provide a continuing source of local income and employment. The program began as a pilot project. At the inception of stewardship contracting the USFS-Northern Region began with twenty-seven (27) pilot projects.

Stewardship contracting has provided the USFS and BLM with new ways to accomplish necessary work by using the financial value of the commercial products that are harvested to accomplish additional forest stewardship benefits. These stewardship activities may include forest health restoration, pre-commercial thinning, forest fuels reduction, road maintenance and road de-commissioning, expansion of dispersed recreation opportunities, water quality enhancement, noxious weed control and fish & wildlife habitat improvements, including stream restoration and controlled burning.

Congress authorized the USFS and BLM to enter into contracts to perform services to achieve National Forest System and BLM land management goals that meet local and community needs. For more complete information regarding forest stewardship contracting visit the web site at www.fs.fed.us/forestmanagement/projects/stewardship. The Forest Stewardship Handbook FSH 2409.19 – Renewable Resources Handbook,

Chapter 60 also provides access to detailed contracting information at www.fs.fed.us/im/directives/fsh/2409.19/2409.19_60.doc

In 2003, Congress extended the stewardship contracting authority until September 30, 2013 under Public Law 108-7, which granted the USFS and BLM a ten-year authority to enter into stewardship contracts or agreements that will achieve agency land management objectives and meet community needs. Projects proposed under the extended authority must:

- Accomplish resource work identified through project planning and NEPA processes
- Projects must be consistent with direction established in the Forest Plan.
- Collaboration shall be part of stewardship contracting project planning and continue throughout the life of the project.
- Excess receipts generated on one project should be used for additional approved stewardship contracting projects
- Products removed may include timber, forest biomass, seeds, forage, fungi and Christmas trees.

The new authority categorized and defined appropriate Stewardship Contracting activities as:

- Road and Trail Maintenance or Obliteration intended to restore or maintain water quality, including installation of gates, and clearing or relocation of trails.
- Soil Productivity and/or Fish & Wildlife Habitat Improvement measures, including culvert replacement, wildfire restoration, and installation of guzzlers, water catchments, nest boxes, tree cavities, and tilling of compacted soils.
- Using Prescribed Fire to improve the composition, structure, condition & health of forest stands and/or to enhance wildlife habitat through increased grass and forbs production.
- Vegetation Removal to promote healthy forest stands and reduce fire hazards or achieve other land management objectives through activities such as biomass removal, mastication of surface & ladder fuels, tree thinning to enhance growth or improve resistance to insects & disease and allowing grazing of fuel breaks outside an allotment to reduce fire hazards.
- Watershed Restoration & Maintenance such as planting vegetation & stabilizing stream banks, reintroduction of large woody debris (LWD), clean up landslide debris, and fire restoration.

- Habitat Restoration to improve habitat connectivity and/or enhance wetland habitat
- Control noxious/exotic weeds & re-establish native plants.

5.1.6 Collaborative Efforts

There are several important collaborative efforts underway in the TSA which are designed to break the existing cycle of appeals and litigation that often affect the efficacy of U.S. Forest Service resource management projects.

1. Kootenai Forest Stakeholders Coalition (KFSC) – This group is a broad coalition of 100 members including elected officials, private citizens and representatives of timber, mining, motorized recreation and conservation groups. Their Mission is "To demonstrate the ability of a diverse group of stakeholders to define common ground by implementing projects on natural resource issues, including community protection, forest and watershed restoration, public safety, forest health and community economic vitality." Since its inception in 2006, the KFSC stakeholders have endorsed/negotiated and completed six fuel-reduction projects which treated 6,200 acres in the Wildland-Urban Interface of the Kootenai National Forest. These projects have produced over 18.4 million board feet of timber products. KFSC is currently working towards resolution of six additional projects which would treat 42,000 acres and produce an additional 46 million board feet of timber products.

2. Montana Forest Restoration Working Group (MFRWG) – This effort was launched in 2007 by the Montana Forest Restoration Committee, a group of 34 individuals representing conservation, motorized recreation, outfitters, loggers, sawmills, state government and the U.S. Forest Service. This committee agreed upon thirteen Restoration Principles www.montanarestoration.org/restoration that will be applied when planning and implementing all forest restoration work on National Forest Lands in Montana.

There are currently two Restoration Groups, one on the Lolo National Forest and the other on the Bitterroot National Forest. In existence since November 2007, the Lolo Restoration Group reports having 17 members affiliated with the timber, conservation and motorized recreation interests. They are currently working on three projects on the Seeley Lake (Auggie Project), Nine-Mile (South Fork Fish Creek) and Superior (Cedar-Thom) Ranger Districts. The Bitterroot Restoration Group is currently working with the

U.S. Forest Service on three projects which are in the development and pre-analysis stages.

3. Blackfoot Stewardship Project (BCSP) – The BCSP involves the 400,000-acre Seeley Lake Ranger District of the Lolo National Forest within the Blackfoot watershed of western Montana. It also includes lands within the public-private 41,000 acre Blackfoot Community Conservation Area – parts of which are now owned by the Blackfoot Challenge group based in Ovando. Federal funding is being sought for restoration forestry projects and for a biomass energy project in Seeley Lake. Agreements have been made to add 87,000 acres to the Bob Marshall and Mission Mountain Wilderness areas. This project is endorsed by numerous organizations. Political support includes the commissioners from Missoula, Powell and Lewis & Clark counties. Private businesses such as Pyramid Mountain Lumber and other local business owners have endorsed the project. Conservation groups such as the Montana Wilderness Association, the Wilderness Society and the Rocky Mountain Elk Foundation have also extended support. See www.blackfootclearwater.org

4. Beaverhead-Deerlodge Accords - The "B-D Accords" affect an area outside the TSA but within western Montana and represent a potential model to ensure adequate funding for U.S. Forest Service timberland management, Wilderness protection, habitat enhancement and opportunities for motorized recreation on federal land. An effort with the vision of "Creating jobs, protecting Montana's great outdoors and open spaces, and building strong communities" was founded by several timber industry businesses (Sun Mountain Lumber, Roseburg Forest, Smurfit-Stone Container, RY Timber and Pyramid Mountain Lumber) and the Montana Wilderness Association, the National Wildlife Federation and Montana Trout Unlimited. The agreement, which addresses U.S. Forest Service lands on the Beaverhead-Deerlodge National Forest, has specific proposals regarding timber harvest via Stewardship Contracting, the addition of 573,000 acres to the Forest's Wilderness system, and enhanced hunting, fishing and outdoors recreation opportunities. Critics of this effort note that not all county commissioners were included in the initial stages of the process and that certain motorized recreation groups and individual ranchers were opposed to designating additional Wilderness. This agreement, when/if approved, will revise the Forest Management Plan for this National Forest and its designation of Management Areas.

5.2 Forest Restoration & Stewardship– Private Lands

Forest restoration and stewardship have become common themes on private forest lands in Montana. Many forest management projects are initiated on private lands because landowners are concerned about forest health conditions related to stand density and species composition. Stand density is a concern related to the threats of wildfire and negative impacts on wildlife habitat and livestock grazing. Species composition also relates to forest structure and the presence of shade-tolerant trees in the forest understory that can serve as fuel-ladders. Insect and disease conditions can be exacerbated by combinations of stand density and species composition, especially in terms of the current Mountain Pine beetle epidemic affecting Lodgepole pine and now spreading into formerly healthy stands of Ponderosa pine and White-bark pine. In today's world, private landowners are often likely to respond to poor forest health conditions, the danger of wildfire and the benefits of forest restoration treatments. Property protection and habitat enhancement are often the primary drivers.

Montana has an active private lands forest stewardship program. The federal Cooperative Forestry Assistance Act of 1978 authorized the Forest Stewardship Program to provide technical assistance through State forest agency partners to encourage and enable active long-term forest management on non-industrial forest land. A primary focus of the Program is the development of comprehensive, multi-resource management plans that provide landowners with the information they need to manage their forests for a variety of products and services. Montana Department of Natural Resources and Conservation (MT DNRC) Service Foresters provide private landowners with forest management advice and assist landowners with forestry grants. DNRC Service Foresters also help protect water quality and mitigate wildfire threats through administration of Montana's Streamside Management Zone and Slash Hazard Reductions laws.

Montana, through the Montana State University Extension Forestry program, has also developed a unique approach to teaching forest stewardship to private forest landowners. The process teaches landowners how to develop their own long-range Stewardship Plan and is intended to provide the motivation to implement stewardship principles on their own forests. Since its inception in 1991 MSU Forest Extension has conducted 125 Forest Stewardship workshops attended by over 1,800 forest landowners who own 970,000 acres of private forest land in Montana. Over 1,300 stewardship plans have been developed. The Montana Forest Stewardship Steering Committee, under the direction of the Montana State Forester, coordinates the Montana Forest Stewardship Program.

MSU Forest Extension also provides numerous publications to the public to encourage responsible forest stewardship practices on private lands. They include:

- *"Management Practices for Forest Health and Catastrophic Wildfire Resistance"*
- *"Forest Ecosystem Stewardship"*
- *"Riparian Forest Stewardship"*
- *"Water Quality Best Management Practices for Montana Forests"*

The Montana Tree Farm Committee is part of the American Tree Farm System, and provides individual forestry assistance with forest management plans and has the ability to help provide forest certification through the Sustainable Forestry Initiative program. They work to help improve forest management practices and enhance forest health, water quality, wildlife habitat and recreation. There are 400 certified Tree Farms in Montana, covering 1.2 million acres. (www.mttreefarm.org)

Montana's Regional Innovation Grant (RIG)
Core Leadership Group

Exploring Forestry Based Products and Forest Stewardship Industry Cluster in Western Montana

"Responsible utilization and management of natural resources is a critical component of society's ability to exist and prosper. Working landscapes successfully balance economic, social, and ecological priorities. In rural places, working landscapes are often the primary source of jobs and income" -Sustainable Northwest

RIG Committee Members:

- Paul Uken
- Chad DeLong
- Charlie Wright
- Jennifer Nelson
- Tracy McIntyre

1. **What entities make up this industry cluster in Western Montana?**

Western Montana Forestry Based Products and Forest Stewardship Industry has a multitude of layers that interact and support each other. The "Montana Timber Industry Focus Report" has developed a list of NAICS industries that are included in the Forestry Based Products and Forest Stewardship Industry Cluster.

Timber Tract Operations	*Forest Nursery and gathering forest products*
Logging	*Support activities for forestry*
Sawmills	*Wood Preservation*
Hardwood veneer and plywood manufacturing	*Softwood veneer and plywood manufacturing*
Engineered wood member manufacturing	*Truss manufacturing*
Reconstituted wood product manufacturing	*Cut stock, resawing lumber, and planning*
Other millwork, including flooring	*Wood container and pallet manufacturing*
Prefabricated wood building manufacturing	*Miscellaneous wood product manufacturing*
Paperboard mills	*Corrugated and solid fiber box manufacturing*
Coated and laminate packaging materials manufacturing	*Sanitary paper product manufacturing*
Sawmill and woodworking machinery	*Wood kitchen cabinet and countertop manufacturing*
Upholstered household furniture manufacturing	*Non-upholstered wood household furniture manufacturing*

Institutional furniture manufacturing	*Wood office furniture manufacturing*
Custom architectural wood work and millwork	*Showcases, partitions, shelving, and lockers*
Lumber and wood merchant wholesalers	*Wood window and door manufacturing*

In addition to the above information the Committee defined the following as critical entities for the Forestry Based Products:

- *Mills: saw, ply, med-density, portable and paper*
- *Loggers: companies, Montana Logging Association, gypo-independent, log haulers,*
  **** NOTE: Montana Logging Association has over 700 members*
- *Value-added production: log homes, post & poles, furniture, spec beams, pellets, alternative energy (i.e. biomass and ethnol development), wood shavings*
- *Supporting Industries: equipment, part stores, fuel dealers, trucking firms, financial institutions, utilities company*

Another aspect to this cluster is focused on the Forestry Stewardship portion. Though many of the above industries straddle between production and stewardship and there really isn't one without the other the there are forest opportunities separate from Forestry Based production. The following are examples of some of the work being done under Forestry Stewardship that is not directly related to the manufacture of wood based products.

- *Noxious Weed control*
- *Brushing and maintenance work of trails*
- *Riparian conifer planting and maintenance*
- *Stream reconstruction*
- *Decommissioning, Restructuring, Maintenance, Storm-proofing of Roads*
- *Treating existing slash piles*

It is also important to note that the Forestry Related Industries and Clusters impact Western Montana's Tourism industry. Western Montana's tourism industry is based on having access to the forest for hiking, biking, snowmobiling, cross country skiing and snowshoeing, recreational driving, viewing wildlife, fishing, berry picking, hunting and outfitting etc.

With this, the Committee recognizes that if the Forestry Related industries/cluster continues to decline there will be a direct negative impact on the following industries:

- *Utility Companies*
- *Entertainment services*
- *Tourism related industries*
- *Fuel and Vehicle based services*
- *Value-added production lines*
- *Financial institutions*

For the purpose of this paper we have identified the following businesses that are directly involved in Forest Based Production. Please note that this list is not a complete list of every forestry/timber based business in Western Montana. It is the intention of the Committee to continue to identify and include as needed.

- *FH Stoltze Land and Lumber Co; Columbia Falls*
- *Plum Creek Timber Company; Columbia Falls, Pablo, Fortine, Evergreen (Kalispell)*
- *Pyramid Mountain Lumber Co; Seeley Lake*
- *Smurfit-Stone Container Corp; French Town*
- *Sun Mountain Lumber Company; Drummond*
- *Chapel Cedar; Troy*
- *Four Corners Pine, LLC; Trout Creek*
- *Marks Lumber; Clancy*
- *Marks-Miller Post & Pole, Inc; Clancy*
- *Montana Timberline Firewood Co; Kalispell*
- *Rocky Mountain Log Homes and Lumber Co; Hamilton*
- *Simpson Lumber Co; Kalispell*
- *Thompson River Lumber; Thompson Falls*
- *Tricon Lumber LLC; St. Regis*
- *LuckEG Post and Pole; Libby*
- *Eureka Pellet Mill-Montana Renewable Resources; Eureka*
- *Montana Woodworks; Rexford*
- *Gwynn Lumber; Eureka*
- *RBM Lumber; Columbia Falls*
- *Hunts Timbers, Inc.; St. Ignatius*
- *Johnson Brothers; Olney*
- *Tobacco Valley Lumber Co; Kalispell*
- *Glacier Creek Logging and Lumber; Condron*
- *Western Building Centers; 7 County Region*
- *Roseburg Industries; Missoula*

This list does not include all the logging companies and the other secondary/supporting companies that are involved in the Forestry Based Products and Forest Stewardship Cluster.

2. **What are the high impact organizations within the cluster and where are they located? Draw a map that helps us have some sense of the region?**

- *All the businesses listed above- map is attached*

We have identified that the following organizations also play a role in the cluster of Forestry as well as provide critical employment and workforce needs. Again, we acknowledge that this list is incomplete and open to additions as identified.

- *USFS-Regional Office: Missoula*
- *Montana State DNRC*
- *University of Montana-School of Forestry: Missoula*
- *Flathead Valley Community College- Logging Team: Kalispell*
- *Montana Logging Association*
- *Montana Forest Owners Association*
- *Montana Wood Products*
- *Montana Forest Council*
- *Restore Montana: Missoula*
- *Northwest Connections: Missoula and Seeley-Swan*
- *Montana Tree Farm*
- *Society of American Foresters*
- *Sustainable Northwest and Rural Voices for Conservation Coalition: Portland, Oregon*
- *Missoula Area Economic Development Corp: Missoula*
- *Montana Dept. of Commerce Regional Development Office: Missoula*
- *Montana West Economic Development: Kalispell*
- *Northwest Economic Development District*
- *Bitterroot Economic Development District*
- *Eureka Rural Development Partners; Eureka*
- *Montana Community Development Corporation*
- *Montana Forest Restoration Committee*
- *Sierra Club*
- *The Nature Conservancy*
- *Rocky Mountain Elk Foundation*
- *The Wilderness Society*
- *MT Dept. of Fish, Wildlife and Parks*
- *Montana Wilderness Association*
- *WildWest Institute; Missoula*
- *Kootenai River Development Council; Libby*
- *National Network of Forest Practitioners*
- *Provider Pals; Libby*
- *Swan Ecosystem; Condron*
- *Yaak Valley Forest Council; Yaak/Troy*
- *Kootenai Salish Tribe*
- *MSU Extension Offices: Mineral, Lincoln, Lake, Sanders, Missoula, Flathead*
- *Montana Legacy Project; the Trust for Public Lands*
- *Community Forest and Open Space Conservation Program*
- *County Commissioners and RAC committees*
- *Local Chambers of Commerce*

3. **From the perspective of entities involved, what are the conditions of the industry now and why? From their perspective, what realistic growth opportunities exist?**

Northwest Montana's Forest based production is in a critical decline that is directly related to the downturns in construction and housing components of the national economy. The industry historically experiences larger business cycle swings. The demand and price for finished products rises and falls with the rise and falls of the home starts. The other factor in the decline of the industry is the availability and ability to harvest raw materials. The federal and state governments, through continued environmental pressures, have drastically changed their process in removing timber.

A key point regarding the Forest Related Industries is that they are historically a reactive industry. Our committee recognizes the need for Forest Related cluster industries to move into a more proactive stance in order to sustain.

As of December 2008, the wood products market is in very poor condition. The sub-prime mortgage crisis and the subsequent recession have the real estate market flooded with homes, foreclosures and tight loan requirements. Housing starts nationally are at a 25 year low and as a result there is little current market in the United States. Poor economic conditions in the United States and falling value of the dollar on the international markets have resulted global economic slowdown, resulting in a slowdown also in the export of timber. Although the dollar has gained some strength internationally, it is primarily due to weakening of other currencies, and not to any real financial stability in the American market.

The economic crisis comes on the heels of several years of timber market downturn. Current national policies that control the federal wood supply have had a significant negative effect on the timber industry in western Montana where federal land ownership makes up most of the 16 million acres of federal land in the State. Without a steady, reliable source of timber to feed mills many companies, especially small companies have struggled to continue operations and many have failed. These conditions have lead to temporary closures and layoff for some mills.

Imports of wood products, particularly from Canada have also played a part in the effect on the forest products industry in western Montana. Most Canadian forestlands are provincially held Crown lands (77%), each with an annual allowable cut. This annual production is not, generally, interrupted by injunctions and lawsuits as are timber sales on public land in the US. This policy difference and our timber trade agreements with Canada have helped provide a steadier flow of wood to the mills, but it has negative impacted US-based logging companies because their skills are not needed.

From their perspective, what realistic growth opportunities exist?

Biomass power generation: *Mills with biomass or co-generation plants will continue to generate part of their own power in the future. Although estimates of biomass availability indicate that sources are numerous, biomass fuels are not likely to be economically viable with current technology due to costs incurred in handling and transporting individual small wood pieces. If harvested with larger wood that has timber value, removal of small wood becomes more feasible. Currently, it is when mills can use their own wood waste that biomass energy production is most feasible.*
Pellet production is a growing industry. Pellet fuels are up 25% nationally from 2005 to 2007, however available feedstock in dependent on mill production and waste wood generation.

There is a need for better technology to reduce handling costs and remove small wood from the forest and this will increase the viability of biomass energy production.
Expected increases in electrical costs will also make biomass power production more feasible in time. Hazardous fuel reduction costs can be offset by the removal and utilization of small trees and slash, but this risk reduction is difficult to quantify.
Barriers to feasibility – current small wood removal costs exceed monetary returns of power generation, i.e harvesting, removal, transportation, sorting, processing
Impetus to overcome barriers – renewable energy mandates, increasing electrical costs, BPA electrical caps and increasing population growth.

Biofuels: *Global production of biofuels is increasing annually, at equivalent of 300,000 barrels per day and current production levels are expected to triple in the next decade. When cellulosic ethanol production becomes economically feasible, demand for woody materials will increase. This increase could create market shortages for raw materials for lumber production. Methods to increase the amount of ethanol produced from a specific amount of wood are being developed, and cellulosic ethanol holds greater promise than currently used feedstock supplies, i.e corn.*
Barriers to feasibility – technology is in developmental stage and current small wood removal costs exceed monetary returns of production i.e harvesting, removal, transportation, sorting, processing; current low petroleum prices
Impetus to overcome barriers – renewable energy mandates, increasing electrical costs, national mandate to reduce reliance on foreign oil.

Industrial chemicals: *Extraction processes associated with biofuels will result in valuable byproducts that are currently manufactured in other countries, or are currently produced from petroleum.*

Barriers to feasibility – technology for biofuel is in developmental stage

Impetus to overcome barriers – renewable energy mandates, national mandate to reduce reliance on foreign oil.

Green building products: *Annual U.S. market of green building products and services is $7 billion in 2005, $12 billion in 2007 and is projected to reach $60 billion by 2010. Western Montana should be able to garner a portion of this market. By linking wood product production with good forest management and stewardship, incorporating principles of carbon sequestration, and small diameter wood use western Montana could be identified with "green" building products. Current infrastructure could be used to produce products in an environmentally sound way.*

Barriers to feasibility – local perceptions of green products, economic condition, supply and demand

Impetus to overcome barriers – social interest in green products, i.e marketing power, value added use of small diameter material, carbon sequestration

Carbon sequestering*: While currently a voluntary market, the US carbon market is gaining momentum and may represent a significant opportunity in the future. If regulation of carbon emissions is made mandatory as it is in some parts of the world and the cap and trade system is implemented, carbon credits could represent a significant industry in western Montana. Tied to forest stewardship and wood products, carbon credits could offset costs associated with reforestation, create revenue and provide funding for other environmental or stewardship projects.*

4. What infrastructure is critical to this industry cluster as it moves forward?

The Forestry Based Products is dependent on a variety of infrastructure, both public and private. As the Missoula Area Economic Development Corporation completed their evaluation and recommendation in the Montana Wood Products Industry Initiative, they highlighted the critical components needed to keep the remaining manufacturing facilities open and accessible. The manufacturing facilities involves sawmill type operations as well as the value added and less traditional systems.

Transportation also plays a vital role in the future of the Montana Forest Based Production. Weight restrictions on roads are severely handicapping the Forest Based production industry, as the loggers have difficulties moving the materials they harvest during the winter months, when it is environmentally sound to do so. Collaboration efforts are making head way in bridging interests groups and understanding forest health. However, many sales are restricted to winter logging and during the annual thaw many roads are closed to weights. This weight issues also affects all sub-industries as well.

The following infrastructure is needed to retain and expand the forest products industry in the state.

- *These include the remaining manufacturing facilities: sawmills for dimensional lumber that utilize both large and small logs; pulp mills for paper manufacturing which use clean, non-saw material; plants for the manufacturing of medium density fiberboard or MDF that use clean chips; pellet mills which use clean chips and/or sawdust; finger jointer facilities that use milled ends and pieces, boiler systems which utilize hog fuel or coarse waste wood material and kilns and dryers for removing moisture from wood products.*

- *The existing railroad system needs to be upgraded and expanded to provide cheaper, reliable transportation between rural wood producing regions, manufacturing facilities and urban markets. Existing rail sidings need to be maintained and new sidings developed. Primary and secondary haul routes need to be constructed and maintained to a level that permits safe and efficient travel at GMV weights allowed by truck and trailer manufactures. Designate truck routes to mills that reduce obstacles and increase safety for truck drivers and the public.*

- *Infrastructure needed for developing newer forest products industries including ethanol plants, including labs for bacteria and enzyme culturing, and bulk and blending facilities; efficient boilers with scrubbers or CO2 capture technology and turbines for biomass power generation, additional power transmission lines and substations, wastewater treatment plants and upgraded water systems. Development of new technology and efficient equipment is needed for cutting, gathering, transporting, sorting and processing small diameter trees and downed debris.*

- *Retention of existing or development of new tree nurseries or greenhouses will be needed to supply seedlings for reforestation projects. Cone collecting and extracting equipment will be needed.*

- *Research and development facilities will need to be upgraded to provide scientific support to new forest products and challenges.*

There is also a need for Forest based production companies and service providers to connect. With the continued decline in material availability it extremely important that businesses build upon one another. The concept is similar to the Elk City's Framing our Communities Business Incubator Program, where they have wood production businesses utilizing each other's "waste" materials to produce another product. Please review the attached story to learn more about the project in Elk City and their goals/successes.

5. **Generally, what is the current skill sets employed in this industry? What skills/talents are needed to move the industry forward?**

Current Skills

Foresters – procurement/prescription/silvicultural/presale/reforestation, Engineers – civil, road, logging, safety Environmental planner – pre-logging and restoration Wildlife and fish biologists, hydrologists, botanists, cultural resources specialists Timber marking and layout crews, surveyors, GIS mapping specialists, tree planters, cone collectors, survey and monitoring crews, slashing crews, loggers, truckers, equipment operators – logging and restoration operations, scalers, mechanics, millwrights, boiler operators, welders, fabricators, electricians, market analysts, market development, Research and Development, economists, human resources, safety officers, purchasing agents, resource clerks, accounting staff, secretaries, office managers, maintenance, receptionists

Future Skills *- as above plus - Chemical and industrial engineers, soil conservationists, soil scientists, environmental scientists and engineers, microbiologists, chemists, restoration specialists, noxious weed specialists, forest geneticists, forest product and environmental designers, wood technologists, onsite and offsite quality control specialists, water purification specialists, wastewater operators/management, more forest laborers*

It is important to also acknowledge that the current forestry related workforce is an aging demographic. One of the gaps identified below is related to the desire to connect younger generations to the woods and the career opportunities; both traditional and emerging opportunities.

6. **In an overall sense, what "gaps" do you see regarding this industry cluster and what ideas do you have about bridging those gaps?**

Gap 1 *- There is a "gap" between available resource and supply needs. The resource is there, but is essentially unavailable. This issue has been at the heart of the forest products demise in western Montana. Most of the forested land in the area is U.S. Forest Service and subject to national policy, specifically the National Environmental Policy Act (NEPA). Local and regional economics have been strongly affected by the outcomes of agency decisions, the lengthy appeal process and litigations. The process that was intended to protect resources has dissolved into controversy, stalemate and ultimately neglect of forest resources.*

Gap 2 *– There is a gap between forest policy, energy mandates, and economic feasibility. Through the Health Forest Restoration Act of 2003, some of the opposition*

to forest management has been reduced, as most people support protection of homes from wildfire in the wildland urban interface. However, the material removed from these areas is primarily small diameter wood with limited, little or no current timber value. Policies and mandates need to be reviewed and determined if they are still appropriate or feasible.

***Gap 3** - Technologies and markets need to be developed that can utilize this material and offer an economic return. If cellulosic ethanol technology was more advanced and developers were able to show economic feasibility of this type of ethanol production, then forest mechanization technology would follow. But development of specialized equipment is expensive and risky, as is purchase of new equipment for logging companies. Money needs to be made available for equipment development, and for logging entrepreneurs.*

***Gap 4** – Current transportation of forest products is expensive and antiquated. Loss of local mills has resulted in long haul distances to get the raw forest material to processing sites. For example, instead of a driver making four trips to a local mill per day, he now can only make two trips to the regional mill per day. If he is paid per load, his pay has been cut in half. If he is paid per hour or mile, the contractor paying the driver's wages is paying more to get the logs to the mill for the same load of logs. Highway use taxes are high, insurance is high, fuel and the associated fuel taxes are high, more miles on trucks result in greater wear and depreciation reducing the value of the equipment and increasing maintenance costs for the same load of logs. Regularly serviced railroad sidings need to be established at key locations to move products, this is especially true for smaller diameter wood products that require a lot of handling and have a marginal economic return. Better transportation would improve the economics of using small diameter wood, and moving finished wood products from the processing areas to marketing areas. Government needs to develop new rail system and encourage rail companies assist community development by offering incentives.*

***Gap 5** – Restoration work must have funding either through economic return from forest products or from government programs funded through taxes. Valuation of products needs to reflect costs.*

***Gap 6** – Values for clean water, air, forest carbon sequestration, forest aesthetics, etc. have not been quantify making environmental stewardship economics difficult to establish. Establish some guidelines.*

***Gap 7** – Making long term stewardship of corporate forest lands part of a corporation's bottom line. Offer incentives, bear the burden legislation.*

***Gap 8** – Means to keep corporate timberlands in the timber land base, i.e. Plum Creek's real estate divestiture. This may become very important in the carbon sequestration issue. Offer incentives, historical use or bear the burden legislation.*

Gap 9 *– Loss of traditional mill operations skills, logging skills, environmental awareness, i.e. an equipment operator knowing by ground indicators (plants, topography, etc) that an area may have subsurface water, and thereby avoiding the area. Keeping and training workforce on a less than guaranteed industry is difficult. Yet the need for skilled competent labor continues to grow as the industry changes to deal with a changing demand for wood products. Training, mentoring.*

The committee also identified the following areas:

- *International/global perspective and marketing*
- *Build Trust between all parties (government, environmental/conservation, industry, recreationists)-the industry needs show sustainable management*
- *Definitions of buzz words "Restoration", "Stewardship", "Collaboration vs. Consensus" "Healthy Working Forests" "Value-Added" "Sustainability"; and remove it from academic language to on the ground implementation*
- *Education- emerging technology and science…how does the logging community stay abreast of emerging information while trying to make ends meet-*
- *Forest fragmentation- instead of looking from on project to the next; encourage and empower whole watershed planning and implementation*
- *Disconnect of communities from the Forests- not understanding the ecology just seeing the results of a harvest- maybe provide resources to urban and rural areas to develop and link working forests and provide K-12 education- Kids in the Woods program- this may work in with the aging workforce-bring more interest into the younger generations.*

7. **Find a success story and be prepared to tell us about it.**

Attachment 1: Vaagen Brothers- Forest Product

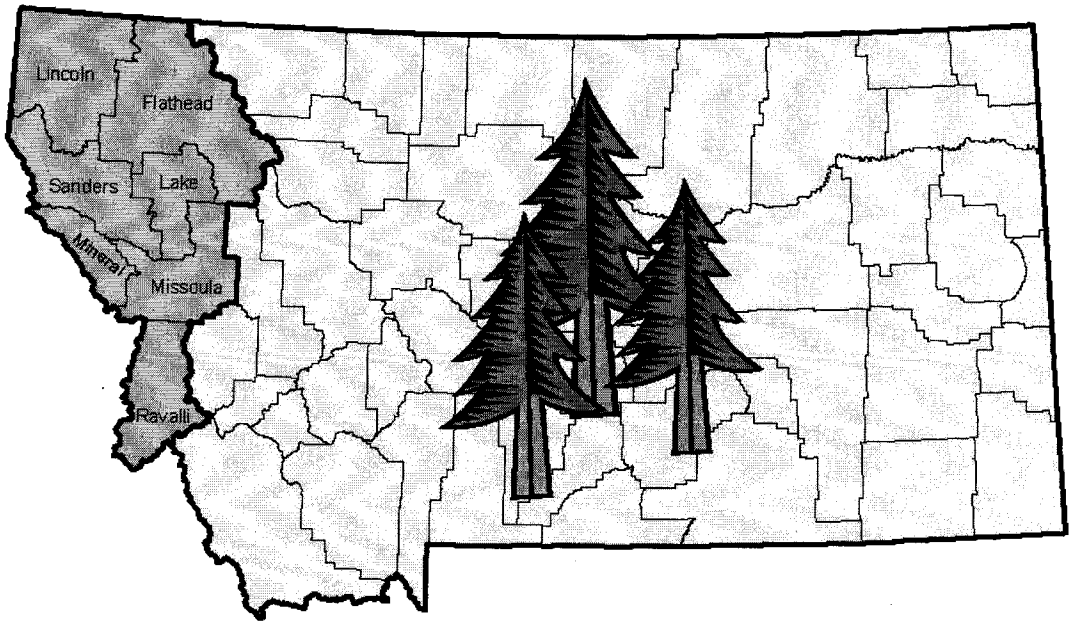
Attachment 2: Elk City Idaho's Business Incubator and Jobs in the Woods- Stewardship

Attachment 3: Map of Businesses

Western Montana Regional Innovation Grant (RIG)

A Regional Approach to Workforce,
Economic and Educational Development in Montana

FINDINGS AND RECOMMENDATIONS



Prepared for the Montana Department of Labor & Industry by the
RIG CORE LEADERSHIP GROUP

June 2009

As the Commissioner of the Montana Department of Labor and Industry, it is my privilege to present the Western Montana Regional Innovation Grant (RIG) findings to you. The economy in Western Montana is changing; according to the Quarterly Census of Employment and Wages, the number of workers employed in the wood industry has dropped by 32% during the past 16 years and continues to decline. That not only impacts the wood industry but the ripple effects impact secondary businesses; for every 100 jobs lost in the woods products industry an estimated 46 jobs are lost in related industries. This raised the question of what are the components of the Timber Industry in the future.

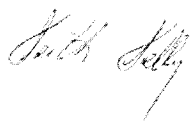
That is why in 2007 the Department of Labor and Industry applied for the RIG grant to assist regional leaders in developing a plan and strategies to revitalize and grow the economy in Western Montana. The grant builds on what already exists within the region, and helps develop the talent pool that can support new and emerging industries.

The grant helped Montana by providing resources to identify key project partners and a core leadership group to help facilitate regional economic transformation. In July of 2008, the Department of Labor and Industry held a series of community meetings throughout the region to identify key community partners in the process and gather information about the issues facing the region. In August a Core Leadership Group was formed to address the issues and concerns.

It is more important than ever to leave no stone unturned when exploring additional opportunities to develop the economy in Western Montana. Regional economic development is accomplished by establishing and building a regional identity across multiple jurisdictions; leveraging and aligning public and private investments; supporting the regional economy through innovative and effective talent development; and promoting and strengthening strategies that focus on infrastructure, investment and talent development and optimize innovation and economic prosperity.

This grant is just the beginning of a regional approach that I believe will continue and will not only strengthen Western Montana's economy, it will enhance the rest of the state as well.

Sincerely,



Keith Kelly, Commissioner
Department of Labor and Industry

RIG Core Leadership Group Members

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Special thanks to Keith Kelly, Commissioner of Montana Department of Labor & Industry for his guidance and leadership through the RIG process.

Technical Advisors

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- Pat Hulla, RIG Project Manager and Workforce Services Division Region 1 Director
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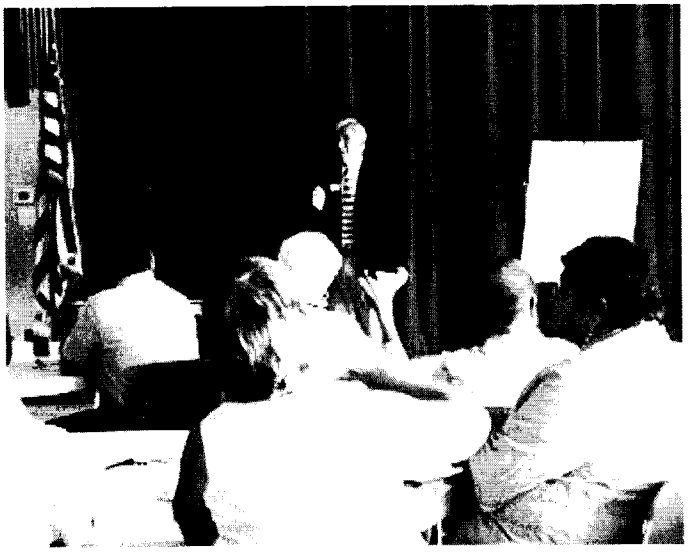


Keith Kelly, Commissioner of Montana Department of Labor & Industry, addresses community leaders at an initial RIG Community Meeting.

Photo Courtesy Casey Kyler-West

Executive Summary

Purpose and Process
In 2008, the United States Department of Labor, Employment and Training Administration (ETA), awarded the Montana Department of Labor and Industry (DLI) a Regional Innovation Grant (RIG):

1. *To establish and build a regional identity across multiple jurisdictions;*
2. *To encourage alignment of public and private investments;*
3. *To support the regional economy through innovative and effective talent development;*
4. *To promote and strengthen strategies that focus on infrastructure investment and talent development and optimize innovation and economic prosperity.*

As part of Montana's RIG, in August 2008, the Montana DLI created a Core Leadership Group to do the following: assess the changing economic environment in seven counties in western Montana; identify current and future workforce needs within that economic context; explore education and training support systems; and make recommendations pertinent to those issues from a regional perspective. The Core Leadership Group was diversified to include business, economic development, education, private non-profit and government across the region.

Critical to the process was an assessment of available data to identify areas of potential workforce development needs. This was done within the framework of a changing timber industry, long a mainstay of the regional economy. Emphasis was given to a workforce development system which would preserve and maximize current talent pools and enhance those by building capacity needed for the emerging economy. The industry clusters identified as critical in the region and with significant workforce needs were Energy, Forestry Based, Health Care and Infrastructure/Public Works.

Methodology included identifying and procuring regional assessment data, research and interviews of regional industry by group members, industry specific white papers, awarding of three specific pilot projects to explore a regional approach to workforce development, and specific recommendations to continue a regional approach.

As the process continued, the following factors were highlighted by the Core Leadership Group as significant and influential on the economic and social future of western Montana.

- While Energy; Forestry-Based Products, Stewardship, and Forest Restoration; Health Care; and Infrastructure/Public Works are major industry clusters in western Montana, the future of the region must be based on an ever-fluctuating, innovative, and diversified business environment to meet future challenges.
- Traditional mainstays of the western Montana economy include forestry and agriculture and these reflect the culture of our communities and fabric of our history.

- Sustainable practices and responsible use and management of forest resources are critical components of western Montana's ability to exist and prosper. Forest landscapes are primary sources of jobs and income in western Montana.
- A critical component of any thriving economy is a workforce with a strong, skill-based education - adaptable, flexible - and ready to accept lifelong learning as a path to personal success and continued employment in any industry. It is the responsibility of government and educational entities to provide resources and tools seamlessly, efficiently, and economically so that lifelong learning can occur.
- A vibrant, thriving economy is dependent on continued cooperation and collaboration among government agencies, Tribes, educational institutions, economic development, and local community interests.
- There are significant benefits to thinking and acting "regionally" including:
    - A regional identity encourages us to work together. Involved counties, communities, Tribes, and educational entities are more aware of each other and their effects on each other.
    - Regionalization facilitates integrated, reciprocal economic strategies.

Working Forests & Next Steps

The RIG process culminated with the Working Forests, Managing Communities Conference co-hosted by Governor Brian Schweitzer and The Governors' Institute on Community Design, which advises governors and state leaders in the growth and development of their states. Its goal is to bring together leading practitioners in government, design, development and regional economics to help state leaders and citizens make informed choices in planning. Attendees included Governor Schweitzer, former Governor of Maryland Parris Glendening, current President of the Governors' Institute, foresters, planners, educators, industry, workers, and environmental organizations. The Montana Department of Labor and Industry and the Regional Innovation Grant team were invited to participate in this vital regional conversation on the changing relationship between our forests and our communities. The same circumstances that generated the RIG called for a deeper dialogue among many stakeholders and knowledgeable citizens who understand our forests' importance to our economy, our quality of life and culture, and our spirit as Montanans. The following key elements were highlighted in this interchange:

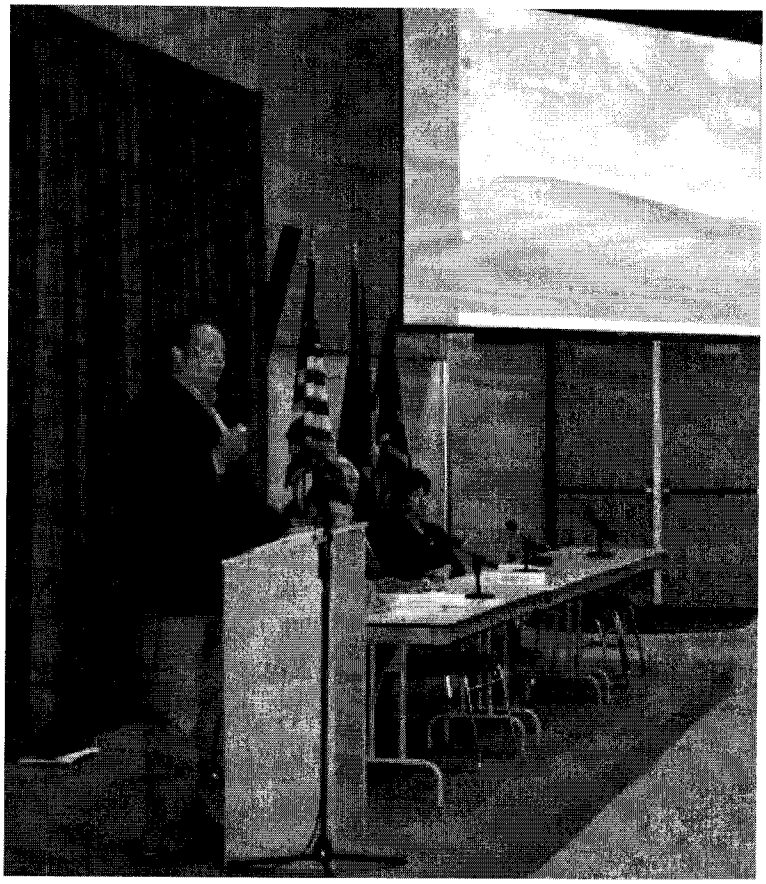
- Living Responsibly with our Forests
- Working Forests and Economic Opportunity
- Tools to Support Communities and Forests
- Ecosystem Jobs and Workforce Training
- Biomass
- Planning and Public Participation
- Forest Management and Markets
- Charting the Future

The RIG Core Leadership accepted the invitation to attend and present as an integral partner in this discourse. We shared our data, our process and our recommendations on regional workforce direction. We outlined the pilot projects generated from the grant to model regional approaches to workforce development. Core Leadership group members hosted a breakout on Workforce Training to identify action ideas for training workers for the new economy, acknowledging

challenges, recognizing innovative partnerships to support ideas, and making recommendations to leadership. The conference answered the question of how the intent of RIG continues past the grant duration. A foundation was laid for continued action which includes expanding partnerships, seeking grant opportunities and engaging industry in a regional approach to workforce development.

The RIG Core Leadership Group believes that the initial efforts made possible by this grant and continued in the Working Forests Conference are merely the beginnings of a regional approach that will continue. Partnerships to secure resources for short and long term talent development have been established, and members acknowledged that this process has enhanced and deepened their ability to connect and collaborate.

The following report includes a description of that regional process, conclusions and recommendations.



Governor Brian Schweitzer addresses attendees at Governor's Institute Working Forests, Managing Communities Conference

Photo Courtesy Jayson O'Neill

Part 1: Introduction

Background and Process

For over a century, the timber and forest product industries have been a major part of the economy of western Montana. This is particularly true of the contiguous counties of Lincoln, Flathead, Sanders, Lake, Mineral, Missoula and Ravalli. Companies involved in timber and forest product industries were plentiful and provided jobs with high wages and good benefits, particularly in the more rural areas and communities. Large companies had operated at some level in multiple locations creating a network of assets and resources that sustained local economies and spread economic benefits throughout the area. In 1990 these industries accounted for about 12% of wages in the area.

Over the past two decades – and increasingly in the past year - this western region of Montana has experienced a succession of business closures and layoffs in timber harvesting, sawmills, wood product processing operations, small manufacturing, and construction. In 2006 the percentage of wages attributed to timber and wood products decreased to 4.7% of the region's wages and the downturn impacted secondary businesses, especially in smaller communities.

This contiguous group of seven western counties represents Region One of the Montana Department of Labor & Industry's statewide network of local Job Service Workforce Centers, mirroring the Montana Department of Commerce, Western Regional Development Area. Montana's RIG gives attention to the unique economic characteristics and struggles that exist in Region One and explores opportunities and steps that might be taken to train and sustain its workforce as the Region's economy develops.

Key Discussion Points

- How can industries be organized around the resources and needs of people living in rural and more urban areas of western Montana?
- How can industries be organized to be economically sound and environmentally sustainable?
- What are the benefits of regionalization?
- What industries might be sustainable in the future in western Montana?
- What might be the workforce needs of those industries?
- How might the new Administration affect what we're doing here?

RIG Process

- Introductory community meetings (July 2008) – Held in Hamilton, Missoula, Kalispell and Libby; open to the public with invitations to encourage local leaders; explained the RIG process; solicited community input on the process; recruited members for the Core Leadership Group

- Maher & Maher Training; Economic Modeling Specialists, Inc.(August 2008) – Benefits of regionalization; leadership training for the process; exploration of western Montana regional asset map

- Identification and convening of a Core Leadership Group; working meetings of that Group (August 2008 – February 2009) – Affirmation of Leadership Group's "deliverables" as requested by the RIG; development of a collaborative framework within which the Core Group worked; examination of western Montana asset map; exploration of data; agreement on growth industry clusters for western Montana; identification of needed workforce skills for those industries; evaluation of training/education pipeline per needed workforce skills; development of recommendations for the RIG Report

Regional Core Values

Participants at the July 2008 community meetings were asked to think about core values that might provide guidance to the RIG Core Leadership Group and help narrow the decision space regarding the eventual RIG recommendations. Core values that appear to be shared across those community meetings were:

- The importance of diversity in industries, the workforce, and skill sets/talents
- The value of lifelong learning and educational systems that are connected, accessible, affordable, and adaptable
- A value for businesses that recognize the importance and connection between profit, the community, and the environment ("triple bottom line")
- Respect for human potential and a decent wage
- Partnerships, interdependence, and the value of enduring relationships
- Sense of community and the importance of facilitating community generations
- Inclusion, quality of life, and sustainability
- Accountability

Part II: Recommendations, Action Steps and Benchmarks

"UNIVERSAL" RECOMMENDATIONS

The Core Leadership Group believes the following recommendations have broad, universal application to all sectors of industry:

- Professional licensing and governing boards have a responsibility to coordinate requirements with educational entities and employers to ensure relevancy and seamless career pathways.

- Montana's education system needs to use technology to increase access to education and needs to standardize and transfer credits between educational units.

- It's important that the Department of Labor and Industry and the State Workforce Investment Board focus on what skills will be needed in the future and that dollars are used to support that shift.

- Assistance and training must be provided to small local businesses on how to meet federal and state bonding and contract requirements so they have "contract readiness."

- The majority of jobs already exist that are required to build a "green economy" or a more sustainable, local and healthy economy. Green jobs are only that portion of existing occupations that need a new set of skills and understanding and/or certifications. Education providers and workforce development practitioners must monitor the emergence of a green economy and adjust plans accordingly.

- Successful individuals will be proficient in core skills including basic math; reading and writing; computer literacy; communication – ability to listen and verbalize; ability to think critically and solve problems; strong work ethic; helpful and positive attitude; and commitment to life-long learning.

- State of Montana Departments should continue to structure themselves to have matching or identical regions to better align and integrate government work.

- Working together is important for coordinating efforts and building consensus on regional economic strategies. Economic development, workforce and education entities must continue to meet periodically to share and identify needs and opportunities and must use other tech-savvy tools to stay connected:
    - Hold quarterly meetings.
    - Create a "linked it" networking site or blog for the Group and others who want to participate.
    - Partner together on collaborative projects.
    - Advise and assist others as appropriate.

- Consider the following post-grant suggestions:
  - Share the RIG Draft Report with the Department of Labor & Industry Commissioner and the Governor. Include a few Core Leadership Group members in that presentation.
  - Share the final Draft Report with local communities – particularly those who participated in the summer 2008 community meetings.

Regional Innovation Grant Core Leadership Meeting

Photo Courtesy Debra Krantz

Industry-Specific Recommendations, Action Steps and Benchmarks

The Core leadership Group offers the following industry-specific objectives, overview and recommendations for four economic sectors with growth potential in western Montana.

ENERGY

Objectives for the Industry Cluster

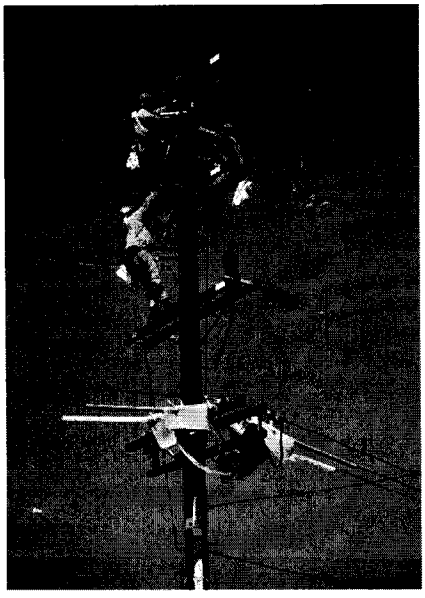
- Advance economic development through clean energy.
- Capitalize on national need; push for clean, domestic, renewable energy.
- Use Montana's natural resources for energy development and supply.
- Take advantage of workforce talent and capacity in construction industry.

Overview

The energy industry in western Montana ranges from traditional utilities to newer alternative sources like solar power. It also includes the preliminary exploration of geothermal power. The energy industry is in flux, but there is a high potential for growth as the nation pursues alternative and renewable energy sources. New energy technology will create rapid and continuous change.

It is recommended that planning groups like RIG continue to communicate with and monitor developments of the energy industry in western Montana. As information becomes available, groups consisting of education providers, industry, economic development organizations and community workforce entities can develop a concrete response to workforce needs.

As the nation increasingly turns its attention to energy, some of it will focus on the efficient use of energy in buildings, appliances and vehicles. The retrofitting of residential, commercial and public buildings will rely on areas of employment where people already work. While the construction industry has been one of the region's top four employing sectors, these workers may need some preparation and training in "green" skills and energy standards.



Workforce Needs

Current workforce needs are primarily the replacement of aging workers, particularly linemen. Long-term workforce needs are tied to upgrading and replacing the transmission grid system and alternative energy development. This will demand different skill sets and standards and customer service as well as installation and transmission construction workers. Most companies are only in initial planning phases for this future. As the alternative energy industry in western

Montana emerges, workers can be at the "readiness" level if skills have been identified and acquired.

Energy Recommendations and Action Steps with Benchmarks

A. Determine what existing employers need for employees to meet certification and industry standards for potential new jobs.

Action: Commission a Department of Labor and Industry or RIG study of industry certifications now required for workers to be hired or progress.

Benchmark: Comprehensive list of certifications, contacts, and requirements.

B. Determine core-competencies and commonalities in the energy industry to retrain workers for the rapidly changing work environment.

Action: Determine pre-requisite skill level required to enter the industry. Identify transferable and adaptable knowledge, skills and abilities.

Benchmark: Industry-approved list of core-competencies.

C. Research states which excel at attracting new energy companies and their best practices for workforce training.

Action: Establish a method to collect/update relevant best practices and make available to interested partners. Check with Department of Labor and Industry and Department of Commerce's Energy Infrastructure Office to determine what research has been done. Contact Energy System and Technology and Education Center at MSU about implementation options.

Benchmark: Common database or clearinghouse available.

D. Determine how educational providers can meet education and training needs of developing industries. Streamline the process for students to identify their skills and interests, understand education requirements, and recognize career pathways.

Action: Study new methods like the Flathead/Glacier and Polson High School Cluster Programs for application throughout the region.

Action: Facilitate a roundtable discussion with the Board of Regents, Office of the Commissioner of Higher Education, Board of Public Education, Office of Public Instruction, the Department of Commerce and Governors Office.

Benchmark: Department of Labor hosts meeting to share RIG outcomes and to discuss how to meet the future education and training needs of an emerging industry.

FORESTRY-BASED PRODUCTS, STEWARDSHIP AND FOREST RESTORATION

Objectives for the Industry Cluster

- Continue to use and supply wood products from western Montana forests.
- Support, update and evolve forest-dependent communities and infrastructure.
- Maintain the relationship between the logging industry and manufacturing.
- Link wood product and restoration businesses to "community" forests.
- Work within society's desire for environmental and economic sustainability.
- Improve forest health through stewardship and restoration projects.
- Take advantage of changing forest "supply" to smaller logs/biomass.
- Maintain local culture while recognizing the need to adapt to new cultural norms to prosper in a changing world.

Overview

In the past 30 years, the forest products industry has seen major changes. The reasons are many: public reaction to clear cutting; national policy and regulatory process reducing the supply of timber; timber products competing with other building products; and timber imports from outside the United States.

Growing interest in clean and domestic energy represents an opportunity for resurgence in wood products and biomass fuels in western Montana. The renewable, smaller carbon footprint, natural carbon sequestering characteristics of wood make it the original "green" product. There is plenty of forest restoration work, but funding has been an obstacle in the past. The American Recovery and Reinvestment Act may provide work in both developing new infrastructure and products and in forest restoration projects.

Unlike other intermountain states, a diverse and well-integrated forest products industry remains in place in western Montana. However, the feedstock issue must be addressed. Without a continuous supply of wood fiber, the industry will not be stable and new jobs and industries will not be created. If action is not taken soon, the existing infrastructure will continue to deteriorate and be lost.

Workforce Needs

To advance, opportunities will require the skills of old and new skills for developing and implementing new technologies. These workforce needs are best achieved through education that supports advances in technology in harvesting and processing smaller diameter and waste

wood material, as well as the development of biofuels, and green building products. Occupations range from equipment operators and forestry workers to biochemical engineers and lab technicians. The overall decline of the industry has resulted in a loss of some essential skills including millwrights, equipment operators, electricians, and foresters.

Forestry-Based Recommendations and Action Steps with Benchmarks

A. Facilitate region-wide collaboration to gain financial and political support at the state level to invest in new forest technologies, product development and to support forest stewardship and restoration projects.

> ***Action:*** Encourage local economic development organizations to work together in ongoing collaborative processes (e.g., RIG mini-grant projects).
>
> ***Action:*** Take full advantage of the American Recovery and Reinvestment Act to support this recommendation.
>
> ***Action:*** Build a statewide revolving loan fund program for forestry-related product and business development including biomass. Find varied and sustainable funding sources for forest restoration projects.
>
> ***Action:*** Encourage federal and state to offer contracts sized for small business.
>
> ***Benchmarks:***
> New forest technologies and industry/product development are emerging and people are finding jobs in meaningful numbers in terms of employment statistics.
>
> Small local business contractors are performing stewardship and restoration work.
>
> Some useful amount of dollars from the American Recovery and Reinvestment Act are applied to the effort.

B. As the forest industry sector changes and develops, identify needed workforce skills and educational background.

> ***Action*:** Develop a system for industry to identify education and training needs (new knowledge and skills) to education providers.
>
> ***Benchmarks*:**
> Programs at high schools, colleges, and universities have altered and/or developed educational offerings that address industry changes and people are taking advantage of those educational opportunities.

C. Refer to the universal recommendations on bonding and contract requirements and improving higher education opportunities to acquire and transfer knowledge.

HEALTH CARE

Objectives for the Industry Cluster

- Develop workforce talent and capacity in an industry where labor shortage and consumer demand can offer future employment opportunities.
- Grow an industry in demand.
- Respond to Montana's aging population.

Overview

The health care industry is one of the fastest growing and largest economic sectors in western Montana. Four of the 10 largest private employers are hospitals in Missoula, Flathead and Ravalli counties. In addition to hospitals of varying sizes and capacity, the health care industry includes: doctors' offices and clinics; residential and long-term care facilities; in-home care; medical suppliers; manufacturing of pharmaceutical and biomedical devices and equipment; education providers; community management teams; and related professional organizations.

Changes like electronic record keeping and sharing, long-distance diagnosis, and on-line education will occur in response to rising costs and workforce shortages. The customer base is increasing as the baby boomer generation ages and requires more care. While demand is increasing, too few people are entering and staying in the health care profession.

Workforce Needs

Segments of the health care workforce where there are shortages include: Licensed Practical Nurse (LPN) and Registered Nurse (RN) as well as ASN, BSN, MSRN (Associate, Bachelor, Master) at varying levels; specialty areas like radiology technology: Personal Care Attendant (PCA) and Certified Nurse's Aide (CNA) for long-term and in-home care; and billing and coding. There is also a need for more educators and trainers to prepare individuals for the current and emerging positions. The American system of health care will undergo major changes as it responds to increases in cost and in the number of businesses and people who can't afford care.

Health Care Recommendations and Action Steps with Benchmarks

A. Develop curriculum to introduce and prepare middle and high school students for careers in health care occupations.

Action: Create a task force that develops health care curriculum for middle and high school student involving entities that deliver education and set standards for health care, including Office of Public Instruction, Office of the Commissioner of Higher Education, community colleges and Department of Labor and Industry.

Benchmark: Curriculum developed and implemented in public schools.

B. Increase the program capacity of Montana's nursing programs to alleviate shortage of qualified health care workers.

Action: Education and health care providers assess program capacity and ways to increase high-demand programs.

Action: Review and identify acceptable standards and methods to acquire on-site clinical experience.

Action: Develop and identify funding for a simulator or simulation opportunities to augment on-site clinical experience.

Benchmark: Recommendations are shared with the Montana Health Care Workforce Advisory Committee, the Department of Labor and Industry and the Office of the Commissioner of Higher Education and problem solving is collaborative and successful.

C. Improve cost effectiveness and delivery of professional development and training offered to health care workers.

Action: Establish and deliver a distance learning and continuing education program for health professionals.

Action: Develop a system for identifying professional development and training needs (new knowledge and skills) to education providers. Education providers receive up-to-date training.

Benchmark: RIG recommendations shared with the Montana Health Care Workforce Advisory Committee, the Department of Labor and Industry and the Office of the Commissioner of Higher Education. OCHE establishes an integrated professional development and training program for health care workers.

D. Support and use technology to increase ability of underserved rural patients to receive health care.

Action: Secure appropriate broadband width for cost-effective communication across Montana, especially in rural areas.

Action: Identify opportunities to increase access to care through electronic record sharing and long-distance diagnosis.

Benchmark: The Governor directs Department of Health and Human Services to look at opportunities to use technology to improve health care to rural Montanans using the American Recovery and Reinvestment Act.

E. Refer to universal recommendation on improving higher education opportunities to acquire and transfer knowledge.

INFRASTRUCTURE AND PUBLIC WORKS

Objectives for the Industry Cluster

- Take advantage of workforce talent and capacity in construction industry.
- Improve and modernize infrastructure critical to communities and industries.
- Support interdependency of regional economies by improving transportation network.

Overview

Infrastructure is typically defined as that part of the community that is publicly owned and is limited to streets, sidewalks and some utilities. For this report, however, infrastructure is broadly defined. It is a critical foundation of economic development because it supports industry with roads, bridges, sewer and water and other essential services.

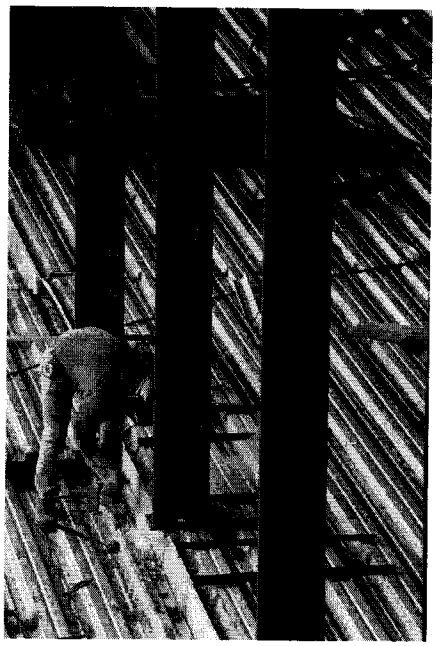
Since industrial growth is crucial to a viable regional economy in western Montana, infrastructure has been identified as an industry cluster in this report. The recently enacted American Recovery and Reinvestment Act also argues for attention to this area because funding will increase for public infrastructure projects.

Construction has been one of the fastest-growing industries, ranking as one of the top four employing sectors in western Montana. Currently, the national economic downturn is affecting the industry although the impact has been later and to a lesser extent in Montana. Public work projects can offer new employment possibilities for construction contractors and subcontractors. The ability for small business to secure federal and state contracts will depend on their ability to understand and meet bonding and contract requirements.

Some public work projects are inherently fragmented into separate community entities. Therefore in rural Montana, small communities may not have as strong a voice in obtaining funds as large communities.

Workforce Needs

Infrastructure is essentially a construction and maintenance industry that needs a wide variety of the workers. It requires: skilled labor like heavy equipment operators, welders, construction workers, water quality specialists, and cement masons; professional labor like engineers and architects; and general labor.



Infrastructure/Public Works Recommendations and Action Steps with Benchmarks

A. Facilitate region-wide collaboration to pool and request community funding for public work projects like water and sewer, as opposed to separate community requests.

Action: Local economic development organizations work together to identify local projects, timeframes, and funding needs and collaborate with county officials and/or tribal governments to seek such funds. A regional entity like the Montana Association of Counties could coordinate efforts to research and identify region-wide needs and assistance in seeking funds.

Benchmark: Small communities secure more public work projects.

B. Refer to the universal recommendations on bonding and contract requirements and improving higher education opportunities to acquire and transfer knowledge.

Timber Industry Focus Report
Executive Summary

Provided by EMSI (Economic Modeling Specialists Inc.)
Complete Focus Report is available online at http://wsd.dli.mt.gov/rig/resources.asp

Over the past two years the Western Montana economy has seen precipitous shifts in employment. Between 2007 and March 2009, employment dropped three percent. The most recent unemployment figures indicate that 10.1 percent of the regional workforce is unemployed. Due to dropping demand for timber products and limitations on timber harvesting, the timber cluster (which makes up more than one third of the manufacturing base in the region) has seen a decline of over 1,300 jobs—equivalent to a 20 percent loss in employment.
The high concentration of Western Montana's timber cluster means that although the region is profitable in times of economic progress, it is vulnerable during times of economic decline. Despite recent employment declines, the regional timber cluster has retained a location quotient score of 4.1. In other words, Western Montana employs more than four times the number of individuals in these industries than the national average. The highly integrated nature of Montana's timber cluster makes the cluster more stable and robust than other timber producing areas. Western Montana maintains timber industries at nearly every point of the supply chain, from extraction (logging) to production, and features industries such as sawmills and prefabricated buildings, residual product fabrication, and paperboard, particleboard and wood pellet manufacturing. This diversity means that when individual industries in this supply chain decline other industries are still able to support the regional economy.

Currently, the economic downturn is so intensive and widespread that consumption is declining for almost all consumer products, from homes to paper to products that normally utilize paper and paperboard for packaging. A second benefit of the region's integrated cluster is that not all production is committed to the same type of wood product. When the economy improves, demand will rise at varying rates for the wood products produced in Western Montana. This will allow revenue to reenter throughout the recovery period, and as long as the necessary materials remain affordable, each industry will recover in time.

The region's timber cluster employs roughly 5,400 workers across thirty different industries. The cluster's largest industries include logging, sawmills, softwood veneer and plywood manufacturing, and paperboard mills. All but three of the cluster's industries have experienced decline in the past two and a half years. According to projections from EMSI and the Montana Department of Labor, recent decline in timber employment is anticipated to continue over the next five years. These agencies project a loss of an additional 590 jobs, or 10 percent of employment from 2009 to 2014.

Even as overall job count is declining, it is important to note that many jobs are still available in timber industries. Several industries added employment between 2007 and March 2009. These industries include softwood veneer and plywood manufacturing (62 jobs), engineered wood member manufacturing (63 jobs), and timber tract operations (10 jobs). Also, the Federal government's increasing emphasis on forest conservation will create new job opportunities within the public sector over the next five years, particularly for forest and conservation technicians (202 projected openings) and conservation scientists (30 projected openings).

Beyond traditional timber industries, local scientists and business people are exploring new technologies that could create job opportunities in emerging industries such as carbon sequestration, reforestation, and energy production through woody biomass. These new industries will offer an unknown number of employment opportunities in the future.

Another noteworthy source of employment will come from the increasing retirement of older workers within traditional timber industries. For example, among the six focus occupations examined in this report (see page 15), roughly 370 replacement job openings are projected over the next five years. If the remaining timber occupations are included the number is much higher.

Western Montana is heavily reliant on the timber industry, which means that the region is successful in times of economic growth and susceptible in times of recession. Regional stakeholders should consider possible ways of diversifying the region's economic base to cushion the region against market volatility. On a more positive note, with the abundance of lumber, the wood product infrastructure, and the advent of new opportunities in forestry, Western Montana stands to remain at the forefront of the industry at the end of the recession.

Regional Innovation Grant Online Resources

This document and the following related resources were prepared through the Regional Innovation Grant (RIG) process and can be found on the internet at http://wsd.dli.mt.gov/rig/resources.asp.

Mini Grants:

1. Lake County Community Development Corporation – **Workforce Development Project within Western Rural Development Region**

2. Missoula Area Economic Development Corp – **The Western Montana Economic Blueprint**

3. Northwest Montana Economic Development District – **Forest Restoration and Stewardship Opportunities**

Regional Timber Industry Focus Report – Report produced by Economic Modeling Specialists Inc. (EMSI) using a proprietary, integrated database built from 70 state and federal sources.

Energy Whitepaper

Forestry Stewardship Whitepaper

Healthcare Whitepaper

Restoration Remediation Whitepaper

Technology Whitepaper

RIG TIMELIME

1. **May/June 2008** - Contract for services with State of Montana providers for meeting facilitation.

2. **June 2008** – Invite interested parties representing the timber industry, economic development, education and workforce development to "Community Meetings" in Hamilton, Missoula, Kalispell and Libby.

3. **June 2008** – Contract for services with Maher & Maher to include regional asset mapping by Economic Modeling Specialists, Inc. (EMSI) to highlight strengths, timber industry trends, economic indicators, workforce competencies, and educational output.

4. **July 14-18, 2008** - Conduct Community Meetings in Hamilton, Missoula, Kalispell and Libby to share RIG process and to determine interest in Core Leadership Group participation.

5. **August 20, 2008** - Maher & Maher training in Missoula for interested parties including Core Group and Representative Group to identify a shared regional identity and vision for the Regional economy.

6. **August 21, 2008** – Core Leadership Group meeting in Missoula.

7. **September 22, 2008** – Core Leadership Group meeting in Ronan.

8. **November 20, 2008** – Core Leadership Group meeting in Ronan.

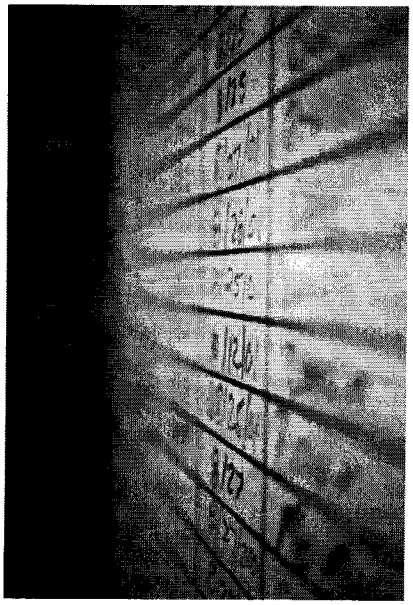
9. **January 23, 2009** – Core Leadership Group meeting in Ronan

10. **February 18 - 19, 2009** – Core Leadership Group meeting in Ronan

11. **March 2009** – Draft document compiled with findings from Community Meetings, Maher & Maher training, and workgroup findings.

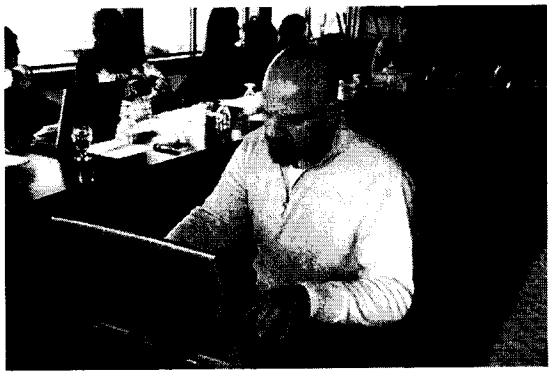
12. **June 2009** – Compile and print work product and regional recommendations.

13. **June 18 - 19, 2009** - RIG Core Leadership Group invited to Governor's Working Forests, Managing Communities conference in Kalispell.



Photos & Quotes from Core Leadership Group meetings

Photos Courtesy of Debra Krantz (unless noted otherwise)

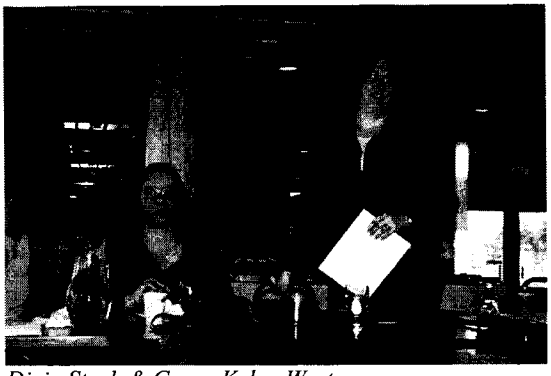


Tim Bronk

Billie Lee & Jennifer Nelson

Charlie Wright & Susie Burch

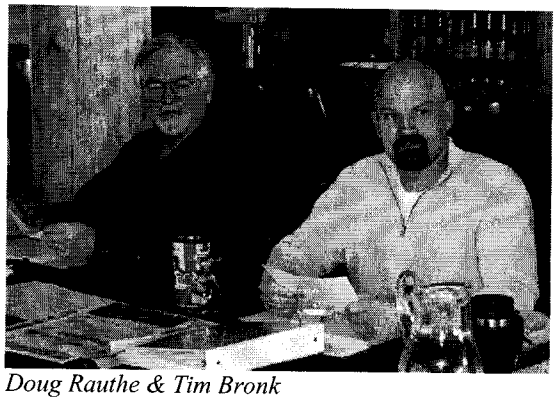
Doug Rauthe, Virginia Tribe & Debra Krantz
Photo Courtesy of Casey Kyler-West



Dixie Stark & Casey Kyler-West

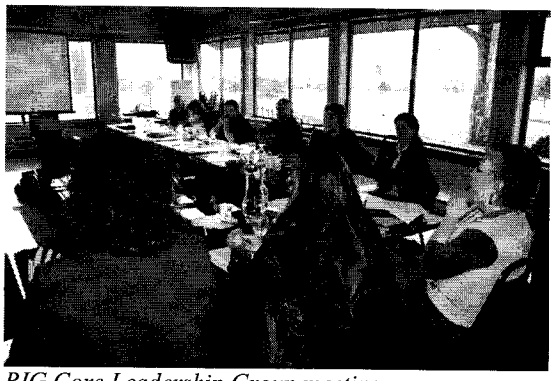
Dixie Stark, Casey Kyler-West & Kay Strayer

"We need to get together quarterly with each other. I have learned so much from all of you".



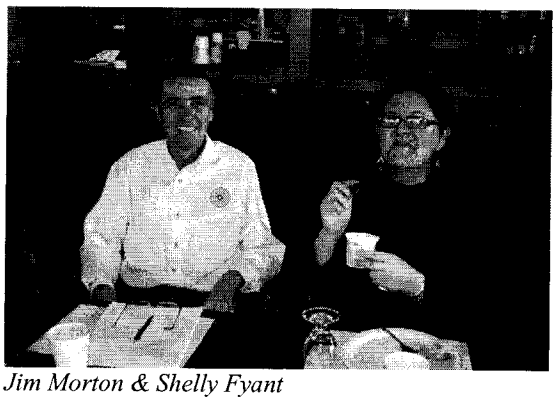
Doug Rauthe & Tim Bronk

Greg Landon & Ray Marshall



RIG Core Leadership Group meeting

Jennifer Nelson & Marnie Criley



Jim Morton & Shelly Fyant

Kimberly Morisaki

"I'd like a more regional kind of executive director group and communication system – which could include meeting physically but also a digest of regional activities like MATR.net."

Jim Morton & Lynn Stocking

Marcy Allen & Jim Morton

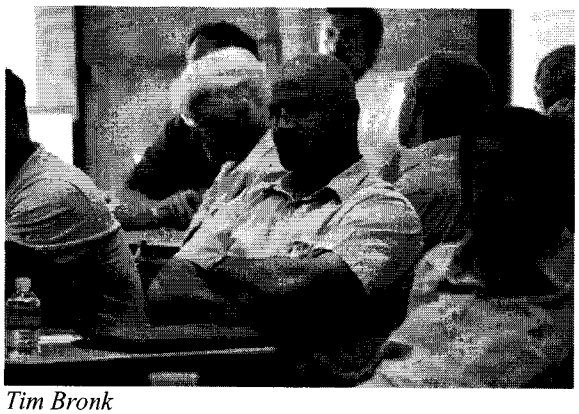
Pat Hulla

Sherry Munther, Marcia Hogan, &Virginia Tribe

"I would love to have the opportunity to meet with the entire Core Group from time to time. I will be contacting and working with several of the individuals that I go to know here."

Governor's Institute – Working Forests, Managing Communities Conference

Photos Courtesy of Debra Krantz



Tim Bronk

Dave Morey & Pat Hulla

Ray Marshall & Pat Wise

Kim Morisaki

Working Forests Panel

Chuck Roady F.H. Stoltze Land & Lumber