OUTLOOK 2012 PRESENTATIONS
The University of Montana Bureau of Business and Economic Research

Flathead County

Inside:
National, State, and Local Forecasts ● Agriculture ● Energy
Forest Products ● Health Care ● Housing
Manufacturing ● Travel and Recreation

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Publications Assistants
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<td></td>
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MONTANA’S NEW ENERGY FRONTIER

What are the prospects?

Montana Producing Areas and Exploration Activities

About 45,000 Wells Drilled
4400 Producing Oil Wells, 6500 Gas Wells
**Typical Bakken Wellbore Diagram**

- Potable water—3 layers of protection
  - 9-5/8” surface casing
  - 7” production casing
  - 3-1/2” tubing

- Hydraulic fracturing
  - stage frac btn csg pkrs
  - pump wtr @ high press
  - pump proppant into frac

---

**Energy Outlook**

- T28N-R57E
  - Charley 10-15 #1H
  - Permanent Tapping Unit
Groundwater Protection
through proper well construction

Cement
Conductor casing
Aquifer
Cement
Surface casing
Drilling fluid
Intermediate casing
Middle Bakken / Three Forks Pay Variation

- Middle Bakken pay not a shale lithology
  - Complex, laterally varying lithology & play types
  - Stratigraphic / diagenetic trap drivers
- Underlying Three Forks ‘non-shale’ play potential established 2008
  - Also sourced by Bakken shale
  - Dual zone development underway

Modified from CRI web, 2010

Montana Drilling Permits Issued, 1990 through 2011
Oil and Natural Gas Production Tax Revenue Collections

- Total State Share: $958,629,814
- Total Local Share: $949,382,548
- TOTAL: $1,908,012,362

Oil and Gas State Land Lease Sales

- Number of Tracts Leased Each Year
- Million Dollars
**Petroleum Industry Facts**

- $9+ BILLION Total economic impact – including E&P and Refining
- 4,600 Employees in Exploration, Production, or Refining
- Economic impact from producing an additional 1 million barrels of oil
  - 86 Full time positions
  - $18.5 million in labor income
- Each 10% increase in drilling activity leads to about 315 additional jobs.
- Drilling Rig Count Increased from 9 last year to 13 in January 2012
- Industry likes MT’s business climate and tax structure
  - Brigham Energy: “They (Montana) have a good operating environment.”
    (Billings Gazette, May, 2011)

**Business Tax Climate Rankings**

*The Tax Foundation Fiscal Year 2011*

- **Montana 6th Best**
- **North Dakota 20th**
Montana Oil and Gas Taxes

Montana’s tax rate on oil is 20% lower than North Dakota’s
→ 9.25% vs. 11.5% (Former North Dakota Governor Ed Schafer, FixTheTax.com)

<table>
<thead>
<tr>
<th>Taxes</th>
<th>Montana</th>
<th>North Dakota</th>
<th>Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax Rate</td>
<td>9.25%</td>
<td>11.5%</td>
<td>Montana</td>
</tr>
<tr>
<td>Tax Holiday</td>
<td>18 mo.</td>
<td>Only if oil &lt;$50.07</td>
<td>Montana</td>
</tr>
<tr>
<td>(0.5%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg. Tax/Bbl (05-08)</td>
<td>$4.89</td>
<td>$5.87</td>
<td>Montana</td>
</tr>
</tbody>
</table>

(Montana Department of Revenue Study)

O&G Impact Funds to Counties, 2007-2001

<table>
<thead>
<tr>
<th>O&amp;G Producing Counties (33)</th>
<th>$555 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>All O&amp;G Producing Counties</td>
<td>$515 million</td>
</tr>
<tr>
<td>Top 12 Counties</td>
<td>$244 million</td>
</tr>
<tr>
<td>Big Horn, Blaine, Fallon, Glacier, Hill, Phillips, Powder River, Richland, Roosevelt, Sheridan, Toole, Wibaux</td>
<td></td>
</tr>
<tr>
<td>Richland County</td>
<td>Over $26,000/resident</td>
</tr>
<tr>
<td>Richland County</td>
<td>$244 million</td>
</tr>
</tbody>
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Montana’s Hesitant Economic Recovery

Patrick M. Barkey
Director, Bureau of Business and Economic Research
The University of Montana

A Great Recession,
But Not a Great Recovery

- Persistently weak consumer and business spending
- Slow recovery both here and abroad
- Special problems of housing and the Euro
- Problems of long-term unemployed, government debt, are festering as a result
Pace of Consumer Spending Likely to Slow


Companies Are Hoarding, Not Spending
Source of Corporate Profits?
Look Abroad

<table>
<thead>
<tr>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
</tr>
<tr>
<td>45</td>
</tr>
<tr>
<td>40</td>
</tr>
<tr>
<td>35</td>
</tr>
<tr>
<td>30</td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Foreign Share of U.S. Corporate Profits, 1946-2010
Source: U.S. Bureau of Economic Analysis

How Much Borrowing Capacity
do Countries Have Left?

<table>
<thead>
<tr>
<th>Fiscal Space, percent of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>200</td>
</tr>
<tr>
<td>300</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Survival 10-year Bond Yield, Pct.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

Source: Economy.com
2011 Growth in Montana will be **Lower Than 2010**

- Reason #1: Inflation
2011 Growth in Montana will be Lower Than 2010

- Reason #1: Inflation
- Reason #2: Underperformance of key sectors

Health Care Earnings Growth Slows

Billions of 2011 $

Montana Health Care Services Earnings
Government Earnings
Go in Reverse

Billions of 2011 $

Montana Government Earnings, Billions of 2011 $

$308 mill.

2011 Growth in Montana
will be Lower Than 2010

- Reason #1: Inflation
- Reason #2: Underperformance of key sectors
- Reason #3: The national economy
Actual and Potential Economic Output

Billions of 2005 $

- Actual GDP
- Potential GDP

How the U.S. Economy Recovers from Recessions

Percent

Deviation of U.S. Gross Domestic Product from Long Term Trend
Recessions and Banking Crises

- Austria, 2008
- Hungary, 2008
- U.S., 1929
- Sweden, 1991
- Japan, 1992
- Norway, 1987
- Indonesia 1997
- Hong Kong, 1997
- Argentina, 2001
- Korea, 1997
- Malaysia, 1997
- Spain, 1977
- Thailand, 1997

Recovery of GDP From Financial Crises
U.S. Outlook Summary

- U.S. will probably avoid another recession
- Euro Zone is already in recession. Will it be mild or severe?
- Continued government cutbacks, at all levels
- Evidence of pent-up demand in a few areas
- A cooling off for commodity and food prices
- Very high unemployment rates persist

The Montana Economy
What’s Right and What’s Wrong

- Energy and natural resources are booming
- Healthy increases in farm gross receipts
- Labor market is healing
- Consumer confidence is higher
- Housing bust hangover still lingers
- Retail remains weak
- Government cutbacks being felt
- Wood products cutbacks still reverberate
Notes

Lower Unemployment Claims
Sign of Labor Market Improvement

Continuing Claims for Unemployment Insurance, Montana
Source: U.S. Department of Labor

Fastest Growth is in the East

Percentage Growth in Real Wage and Salary Disbursements, 2010Q2 – 2011Q2
### National and State Outlooks

#### Commodity Prices: Favorable to Montana?

**Materials & Foodstuffs** *(as of December 2011)*

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Low</th>
<th>Current</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lumber</td>
<td>321.65</td>
<td>370.69</td>
<td>477.78</td>
</tr>
<tr>
<td>Barley</td>
<td>2.25</td>
<td>4.62</td>
<td>5.41</td>
</tr>
<tr>
<td>Beef</td>
<td>1.04</td>
<td>1.90</td>
<td>1.93</td>
</tr>
<tr>
<td>Wheat</td>
<td>4.29</td>
<td>7.32</td>
<td>11.97</td>
</tr>
</tbody>
</table>

**Metals & Energy** *(as of December 2011)*

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>3105.10</td>
<td>7558.88</td>
</tr>
<tr>
<td>Lead</td>
<td>2024.56</td>
<td>9880.94</td>
</tr>
<tr>
<td>Zinc</td>
<td>1911.15</td>
<td>3722.61</td>
</tr>
<tr>
<td>Oil</td>
<td>1112.90</td>
<td>3847.52</td>
</tr>
</tbody>
</table>

#### Labor Income and Basic Industries, Montana

<table>
<thead>
<tr>
<th>Percent</th>
<th>Energy, 14%</th>
<th>Mining, 5%</th>
<th>Wood Products, 5%</th>
<th>Agric. &amp; Related, 11%</th>
<th>Travel &amp; Tourism, 9%</th>
<th>Other Manufacturing, 12%</th>
<th>Transportation, 11%</th>
<th>Fed. Military, 9%</th>
<th>Fed. Civilian, 23%</th>
</tr>
</thead>
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<tr>
<td></td>
<td>Strong Growth</td>
<td>Flat</td>
<td>Good Prospects</td>
<td>Weak Recovery</td>
<td>Mixed</td>
<td>Recovering</td>
<td>Unknown</td>
<td>Mild Declines</td>
<td></td>
</tr>
</tbody>
</table>

**Prospects**: Strong Growth, Flat, Good Prospects, Weak Recovery, Mixed, Recovering, Unknown, Mild Declines.
Change in Nonfarm Earnings, Montana, 2009-2015

The EU Currency Experiment is Unraveling

Yields on 10-year Government Bonds

- Greece
- Portugal
- Ireland
- Italy
- Spain
- France
- Germany

Introduction of Euro
Lehman bankruptcy
### Top 10 Countries Buying Montana Products

*In millions of dollars:*

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Canada</td>
<td>$539.7</td>
</tr>
<tr>
<td>2</td>
<td>Republic of Korea</td>
<td>186.8</td>
</tr>
<tr>
<td>3</td>
<td>China (Mainland)</td>
<td>122.9</td>
</tr>
<tr>
<td>4</td>
<td>Japan</td>
<td>109.8</td>
</tr>
<tr>
<td>5</td>
<td>China (Taiwan)</td>
<td>93.5</td>
</tr>
<tr>
<td>6</td>
<td>Mexico</td>
<td>79.9</td>
</tr>
<tr>
<td>7</td>
<td>United Kingdom</td>
<td>37.3</td>
</tr>
<tr>
<td>8</td>
<td>Germany</td>
<td>25.6</td>
</tr>
<tr>
<td>9</td>
<td>Belgium</td>
<td>24.8</td>
</tr>
<tr>
<td>10</td>
<td>Netherlands</td>
<td>18.5</td>
</tr>
</tbody>
</table>

*These figures do not include bulk wheat exports*
Local Outlook: Flathead County

By Paul E. Polzin
Director Emeritus
Bureau of Business and Economic Research
The University of Montana

Annual Percent Change in Nonfarm Labor Income (in Constant Dollars), 2001-2007
Recession Scorecard

<table>
<thead>
<tr>
<th>County</th>
<th>Duration (Years)</th>
<th>Severity (% Change)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lewis &amp; Clark County</td>
<td>1</td>
<td>-1.5%</td>
</tr>
<tr>
<td>Cascade County</td>
<td>1</td>
<td>-0.8%</td>
</tr>
<tr>
<td>Yellowstone County</td>
<td>3-4</td>
<td>-4.9%</td>
</tr>
<tr>
<td>Butte - Anaconda</td>
<td>2</td>
<td>-7.9%</td>
</tr>
<tr>
<td>Missoula County</td>
<td>4</td>
<td>-10.2%</td>
</tr>
<tr>
<td>Gallatin County</td>
<td>4</td>
<td>-11.4%</td>
</tr>
<tr>
<td>Flathead County</td>
<td>4</td>
<td>-10.2%</td>
</tr>
<tr>
<td>Ravalli County</td>
<td>4</td>
<td>-11.4%</td>
</tr>
</tbody>
</table>

What Recession?

Nonfarm Employment and Inflation Adjusted Wages and Salaries, Seasonally Adjusted, Flathead County

Recession Declared, Dec. 2007

Graph showing employment and wages/salaries over the recession period from 2007 to 2011.
Flathead County’s Economic Base 2009-2011

- Other Basic: 6% (Dormant)
- Primary Metals: 1% (Energy Growth)
- Transportation: 7% (Slow Growth)
- Trade Center: 13% (?)
- Other Manufacturing: 17% (Transition Successful)
- Federal Government: 18% (Stable at Best)
- Nonresident Travel: 18% (Stable at Best)
- Wood Products: 20% (Not Before 2013)

Actual and Projected Change in Nonfarm Earnings, Flathead County, 2008-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
<th>Projected</th>
</tr>
</thead>
<tbody>
<tr>
<td>'08</td>
<td>-2.0</td>
<td>1.6</td>
</tr>
<tr>
<td>'09</td>
<td>-7.8</td>
<td>1.9</td>
</tr>
<tr>
<td>'10</td>
<td>-0.2</td>
<td>1.9</td>
</tr>
<tr>
<td>'11</td>
<td>-0.5</td>
<td>2.1</td>
</tr>
<tr>
<td>'12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>'13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>'14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>'15</td>
<td></td>
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</tbody>
</table>
Montana’s Energy Transportation Systems
Coal Reserves and Production

<table>
<thead>
<tr>
<th></th>
<th>Reserves (Billions of Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montana</td>
<td>119.0</td>
</tr>
<tr>
<td>Wyoming</td>
<td>61.0</td>
</tr>
</tbody>
</table>

Powder River Coal Market Areas
Actual and Projected Asian Coal Consumption

Montana Crude Oil, 2010

<table>
<thead>
<tr>
<th></th>
<th>Barrels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>25,317,532</td>
</tr>
<tr>
<td>Refined in MT</td>
<td>1,574,362</td>
</tr>
<tr>
<td><strong>Percent</strong></td>
<td><strong>6.21</strong></td>
</tr>
</tbody>
</table>

Source: Montana Oil and Gas Conservation Division.
Colstrip 500 KV Transmission Line

Transmission Line Property Taxes to Counties

<table>
<thead>
<tr>
<th>County</th>
<th>Estimated Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosebud</td>
<td>$492,000</td>
</tr>
<tr>
<td>Treasure</td>
<td>$952,000</td>
</tr>
<tr>
<td>Big Horn</td>
<td>$241,000</td>
</tr>
<tr>
<td>Yellowstone</td>
<td>$1,467,000</td>
</tr>
<tr>
<td>Golden Valley</td>
<td>$372,000</td>
</tr>
<tr>
<td>Stillwater</td>
<td>$373,000</td>
</tr>
<tr>
<td>Wheatland</td>
<td>$615,000</td>
</tr>
<tr>
<td>Meagher</td>
<td>$865,000</td>
</tr>
<tr>
<td>Broadwater</td>
<td>$563,000</td>
</tr>
<tr>
<td>Jefferson</td>
<td>$401,000</td>
</tr>
<tr>
<td>Powell</td>
<td>$322,000</td>
</tr>
<tr>
<td>Granite</td>
<td>$401,000</td>
</tr>
<tr>
<td>Missoula</td>
<td>$568,000</td>
</tr>
<tr>
<td>Mineral</td>
<td>$784,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$8,417,000</strong></td>
</tr>
</tbody>
</table>
Soaring, Gliding, or ‘Bumpy Ride’?
Changes in Tourism
Norma Nickerson, Director
Institute for Tourism and Recreation Research
University of Montana

2012 Annual Outlook Seminar

Total Domestic Visitors in the United States
Expected to exceed record slightly in 2011

+4% in 10 years

Forecast as of October 2011
Source: U.S. Travel Association and Tourism Economics
International and Overseas arrivals - slowing growth expected

*Forecasts as of October 2011
Source: U.S. Travel Association; Tourism Economics

MT Nonresident Visitation: 1991-2011

+7.8% since 2001

* projected
Notes

Percent Change in Montana and US Visitation

% change in RevPAR through November 2011 - Getting better

Source: Smith Travel Research, Oct. 2011
Amtrak deboardings 2006-2011
January – October

MT Skier Visits: 1988 - 2011
All Skier Visits Listed by Years

1,480,602 +9%
Total Domestic Visitors... United States

2012 MT Tourism Businesses
- 48% expect growth in 2012
- 40% expect to stay the same
- Overall: 2% growth expected in 2012

2012 National Tourism
- 1.5% growth in domestic visitors
- 3.4% growth in International visitors
- 3.8% growth in overseas visitors

Photo: Norma Nickerson
Flathead County
Nonresident Expenditures 2010

- Retail 27%
- Gas 14%
- Restaurant/Bar 23%
- Hotel 12%
- Grocery/snack 10%
- Service 1.0%
- Transportation Fares 0.2%
- Auto Rental, Repair 3.1%
- Camground 0.9%
- Gambling 0.7%
- License, Fees 4.9%
- Rental Cabin 1.6%
- Outfitter, Guide 1.5%
- Hotel, Motel, B&B 11.6%
- Gas (13.8%)
- Grocery, Snacks (10.2%)

$276 Million
11% of Statewide nonresident spending

Q3 Glacier Airport Deboardings:
2002-2011

Q3: +13% in 10 years
The Affordable Care Act and Health Care Spending in Montana

Health care spending is driven by . . .

MT $35,068
US $39,945

MT 15%
US 17%

MT 15%
US 13%
2007-2009 Recession, and 2010

Biggest declines in health care spending growth in 51 years

Biggest decline in nominal GDP in 73 years

Biggest increase in health care share of GDP in 51 years

Health care is big in Montana...

$7.2 billion in PHCE

Health care share of economy

Growth Rate
Real growth rates Montana GDP and health care

Health care the big contributor to 1.1% increase in Montana real GDP, 2009-2010
Recession and post-recession real earnings, Montana

Major provisions of ACA
ACA provisions

10% Tanning bed tax
7/1/2010

Adults under 26
9/23/10

Early Retiree Reinsurance Program
6/29/2010

Health insurance coverage for young adults

September 2010: Affordable Care Act allows children to remain on parents’ plans until age 26

Percentage with Health Insurance

- Age 26-35
- Age 19-25

[Graph showing percentage with health insurance from 1Q 2009 to 2Q 2011]
Notes

Distribution of $4.2 million ERRP Funds, Montana

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

4%
38%
10%
7%
9%
32%

- Private Enterprise
- State Government
- University System
- County Government
- City Government
- Public Schools

Wasn’t so simple
Small Business Tax Credit

1. Determine the total number of your employees (not counting owners or family members):
   Full-time employees
   (enter the number of employees who work at least 40 hours per week)
   * Full-time equivalent of part-time employee: (Calculate the number of full-time equivalents by dividing the total annual hours of part-time employees by 2080)
   * total employees
   If the total number of employees is fewer than 25 GO TO STEP 2

2. Calculate the average annual wages of employees (not counting owners or family members):
   Take the total annual wages paid to employees
   * Divide by the number of employees from STEP 1
   * If the result is less than $50,000, AND

3. You pay at least half of the insurance premiums for your employees at the single (employee-only) coverage rate, then you may be able to claim the Small Business Health Care Tax Credit.

Find out more information at IRS.gov
<table>
<thead>
<tr>
<th></th>
<th># of Gap Beneficiaries</th>
<th>Total Gap Discount</th>
<th>Average Gap Discount</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONTANA</td>
<td>10,415</td>
<td>$6,409,940</td>
<td>$615</td>
</tr>
<tr>
<td>Big Fork</td>
<td>117</td>
<td>$84,970</td>
<td>$726</td>
</tr>
<tr>
<td>Kalispell</td>
<td>441</td>
<td>$262,014</td>
<td>$594</td>
</tr>
<tr>
<td>Lakeside/Somers</td>
<td>44</td>
<td>$32,035</td>
<td>$728</td>
</tr>
<tr>
<td>Columbia Falls</td>
<td>124</td>
<td>$74,717</td>
<td>$603</td>
</tr>
<tr>
<td>Whitefish</td>
<td>126</td>
<td>$75,686</td>
<td>$601</td>
</tr>
<tr>
<td>Flathead County</td>
<td>924</td>
<td>$577,554</td>
<td>$625</td>
</tr>
</tbody>
</table>

**Premiums increase if you are a person of “means”**

<table>
<thead>
<tr>
<th>Medicare Part B Premiums</th>
<th>Medicare Part D Premiums</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Joint Tax Return (000’s AGI)</strong></td>
<td><strong>Monthly Increase</strong></td>
</tr>
<tr>
<td>≤ $170</td>
<td>$0</td>
</tr>
<tr>
<td>&gt; $170 ≤ $214</td>
<td>$46.10</td>
</tr>
<tr>
<td>&gt; $214 ≤ $320</td>
<td>$115.30</td>
</tr>
<tr>
<td>&gt; $320 ≤ $428</td>
<td>$184.50</td>
</tr>
<tr>
<td>&gt; $428</td>
<td>$253.70</td>
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</tbody>
</table>
### Medicaid and Medicare per enrollee spending in Montana

<table>
<thead>
<tr>
<th></th>
<th>Average Annual Growth (%)</th>
<th>% of MT total personal health care spending</th>
<th>% of U.S. per enrollee spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare</td>
<td>6.3</td>
<td>6.3</td>
<td>17.4</td>
</tr>
<tr>
<td>Medicaid</td>
<td>3.3</td>
<td>5.9</td>
<td>13.7</td>
</tr>
</tbody>
</table>

### Personal health care spending and health care earnings, Montana, 1990-2009

![Graph showing personal health care spending and health care earnings, Montana, 1990-2009](graph.png)
Projected annual percent change in real health care earnings, Montana

Health care employment
% change Q2 to Q2

- Health Care - Montana
- Total - Montana
- Health Care - Flathead
- Total - Flathead
2012 Montana Agricultural Outlook

George Haynes
Department of Agricultural Economic & Economics
MSU Extension

Data Source: National Agricultural Statistics Service
Montana Field Office

2011 “Recap”

- Crops
  - All wheat prices – up 26%
  - All wheat production – down 17%
    - Spring Wheat – production down 29%
  - Pulse crops

- Cattle
  - Cattle and Calf Prices – up 15%+
  - Cow Herd - down by 2%, but total herd value is record high
Gross Revenue Estimates
(2011 dollars)

Dollars ($1 million)

<table>
<thead>
<tr>
<th>Year</th>
<th>Livestock</th>
<th>Crops</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
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<td></td>
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<td>1996</td>
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<td></td>
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<tr>
<td>1997</td>
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<td>1998</td>
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<td>1999</td>
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<td>2000</td>
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<tr>
<td>2001</td>
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<td>2002</td>
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<tr>
<td>2003</td>
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</tr>
<tr>
<td>2004</td>
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<td>2006</td>
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<tr>
<td>2007</td>
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<td>2008</td>
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<td>2009</td>
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<td></td>
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<td>2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Drought Status – July 2011

Montana Drought Status by County - July 2011

Map Key
- Continental Divide
- Drought Impact Type
- Drought Status
- July 2011
  - Moist
  - No Drought
  - Slightly Dry
  - Moderately Dry
  - Severely Dry
  - Extremely Dry
  - Drought Alert
  - Severe Drought

Montana State University Extension
Mountains & Minds
Locally Declared Emergencies as of July 21, 2011

As of 7/21/11
10:00 a.m.
Drought Status – September 2011

Montana Drought Status by County - September 2011

Map Key
- Continental Divide
- Drought Impact Type

Drought Status
September 2011
- Moderate
- Slightly Dry
- Severely Dry
- Extremely Dry (Severe Drought)

Drought Impact Types
- Montana County Drought Status Climate Summary

U.S. Drought Monitor
October 11, 2011
Valid 8 a.m. EDT

Intensity:
- 00 Abnormally Dry
- 01 Drought - Moderate
- 02 Drought - Severe
- 03 Drought - Extreme
- 04 Drought - Exceptional

Drought Impact Types:
- S = Short-Term, typically <6 months
  (e.g., agriculture, grasslands)
- L = Long-Term, typically >6 months
  (e.g., hydrology, ecology)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu/

Released Thursday, October 13, 2011
Authors: R. Tinker, M. Rosencrans, NOAA/NWS/NCEP/CPC

Montana State University Extension
Mountains & Minds
**CROPS (GRAIN, HAY & PULSES)**

**Wheat Exports**
percent of total U.S. production

Total U.S. Exports = 34.5 mmt in 2010/2011 and 25.2 mmt in 2011/2012
Where are these exports going?

- **Wheat (50% of total U.S. wheat exports)**
  - Sub-Saharan Africa 4.9 million metric tons
  - Egypt 3.8
  - Japan 3.3
  - Mexico 2.8
  - Philippines 1.8

- **Export competition**
  - Kazakhstan, Australia, Russia, Canada

---

**“Biggest Losers – Wheat Production”**

2010 to 2011

<table>
<thead>
<tr>
<th>State</th>
<th>Total Production (1,000 bu.)</th>
<th>2010</th>
<th>2011</th>
<th>Difference</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Dakota</td>
<td>361,550</td>
<td>361,550</td>
<td>205,845</td>
<td>-155,705</td>
<td>-43</td>
</tr>
<tr>
<td>Kansas</td>
<td>360,000</td>
<td>360,000</td>
<td>276,500</td>
<td>-83,500</td>
<td>-23</td>
</tr>
<tr>
<td>Texas</td>
<td>127,500</td>
<td>127,500</td>
<td>49,400</td>
<td>-78,100</td>
<td>-61</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>120,900</td>
<td>120,900</td>
<td>70,400</td>
<td>-50,500</td>
<td>-42</td>
</tr>
<tr>
<td>Montana</td>
<td>215,360</td>
<td>215,360</td>
<td>178,290</td>
<td>-37,070</td>
<td>-17</td>
</tr>
<tr>
<td>South Dakota</td>
<td>123,475</td>
<td>123,475</td>
<td>104,796</td>
<td>-18,679</td>
<td>-15</td>
</tr>
<tr>
<td>Minnesota</td>
<td>88,070</td>
<td>88,070</td>
<td>70,456</td>
<td>-17,614</td>
<td>-20</td>
</tr>
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</table>
### Global Wheat Market Shares

<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Australia</td>
<td>26.00</td>
<td>25.00</td>
<td>4.0</td>
<td>3.7</td>
</tr>
<tr>
<td>Canada</td>
<td>23.17</td>
<td>24.20</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td>China</td>
<td>115.18</td>
<td>117.00</td>
<td>17.8</td>
<td>17.2</td>
</tr>
<tr>
<td>EU-27</td>
<td>135.61</td>
<td>136.33</td>
<td>20.9</td>
<td>20.0</td>
</tr>
<tr>
<td>India</td>
<td>80.80</td>
<td>85.93</td>
<td>12.5</td>
<td>12.6</td>
</tr>
<tr>
<td>FSU-12</td>
<td>80.97</td>
<td>110.45</td>
<td>12.5</td>
<td>16.2</td>
</tr>
<tr>
<td>U.S.</td>
<td>60.06</td>
<td>54.65</td>
<td>9.3</td>
<td>8.0</td>
</tr>
<tr>
<td>Other</td>
<td>126.37</td>
<td>127.64</td>
<td>19.5</td>
<td>18.7</td>
</tr>
<tr>
<td>Total</td>
<td>648.16</td>
<td>681.20</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: WASDE-499, October 12, 2011

### Grain Production

- Winter Wheat
- Spring Wheat
- Barley

[Graph showing grain production from 1990 to 2011]
Grain Prices
(2011 dollars)

All Hay Production
Pulse Crop Prices

Share of Pulse Crops Grown in MT

<table>
<thead>
<tr>
<th>Crop</th>
<th>Montana (1,000 cwt)</th>
<th>U.S. (1,000 cwt)</th>
<th>Montana Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Beans</td>
<td>359</td>
<td>31,801</td>
<td>1.1</td>
</tr>
<tr>
<td>Pinto Beans</td>
<td>275</td>
<td>13,814</td>
<td>2.0</td>
</tr>
<tr>
<td>Garbonzo Beans</td>
<td>84</td>
<td>1,939</td>
<td>4.3</td>
</tr>
<tr>
<td>Lentils</td>
<td>3,359</td>
<td>8,657</td>
<td>38.8</td>
</tr>
<tr>
<td>Dry Peas</td>
<td>4,140</td>
<td>14,221</td>
<td>29.1</td>
</tr>
<tr>
<td>Austrian Winter Peas</td>
<td>110</td>
<td>237</td>
<td>46.4</td>
</tr>
</tbody>
</table>
Futures Prices
(not basis adjusted – 12/29/11)

<table>
<thead>
<tr>
<th>Location</th>
<th>Units</th>
<th>3/12</th>
<th>5/12</th>
<th>7/12</th>
<th>9/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minneapolis Grain Exchange</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hard Red Spring Wheat $/bu</td>
<td>8.55</td>
<td>8.31</td>
<td>8.17</td>
<td>7.90</td>
<td></td>
</tr>
<tr>
<td>Kansas City Board of Trade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter Wheat $/bu</td>
<td>7.09</td>
<td>7.17</td>
<td>7.25</td>
<td>7.37</td>
<td></td>
</tr>
<tr>
<td>Chicago Board of Trade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn $/bu</td>
<td>6.45</td>
<td>6.53</td>
<td>6.59</td>
<td>6.10</td>
<td></td>
</tr>
</tbody>
</table>

Hey and pulse crops

Montana Wheat 2012

- 2012 Winter Wheat Plantings → ???
- Influence of corn prices (public policy)
- 2012 Production/Prices
  - MT 2012 All Wheat Price: optimistic
    - Early 2012– prices caution (Russia, Ukraine, Kazakhstan)
    - Late 2012– two important factors
      - Demand – worldwide economic conditions
      - Supply – worldwide growing conditions
CATTLE

Consumer Demand for Beef
(annual choice retail beef demand index)

http://www.amanager.info/livestockmarketing/grahps/Tensor\%20Annual\%20Choice\%20Beef\%20Demand\%20Index\%20Table_1900.htm
54.1 lbs/capita (USDA)
U.S Beef Exports
percentage of production, beef & veal, carcass wt.

Exports – who’s buying U.S. beef

- 90% of U.S. beef exports

<table>
<thead>
<tr>
<th>Country</th>
<th>Export Value</th>
<th>Growth ’10 – ‘11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>$662 m.</td>
<td>38%</td>
</tr>
<tr>
<td>Mexico</td>
<td>670 m.</td>
<td>---</td>
</tr>
<tr>
<td>South Korea</td>
<td>540 m.</td>
<td>50%</td>
</tr>
<tr>
<td>Canada</td>
<td>730 m.</td>
<td>39%</td>
</tr>
<tr>
<td>Russia</td>
<td>80 m.</td>
<td>72%</td>
</tr>
</tbody>
</table>

USDA Livestock, Dairy and Poultry Outlook, 10/18/2011
Montana Cattle Herd

Calf Prices
(2011 dollars)

NASS, 1990 – 2010, MSU 2011 estimate
Futures Prices
(no basis adjustments – 12/29/11)

<table>
<thead>
<tr>
<th>Location</th>
<th>04/12</th>
<th>06/12</th>
<th>08/12</th>
<th>12/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Mercantile Exchange</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeder Cattle, cwt</td>
<td>151</td>
<td>152</td>
<td>153</td>
<td>153</td>
</tr>
<tr>
<td>Live Cattle, cwt</td>
<td>127</td>
<td>126</td>
<td>127</td>
<td>130</td>
</tr>
</tbody>
</table>

20% increase from 2009

Montana Cattle 2012

- **Strong prices**
  - Global demand (growing emerging economies)
  - Strength of the U.S. dollar

- **Opportunity to increase cattle herd**
  - Southern U.S. drought conditions
  - Aging rancher population (interest in expansion)
Montana’s Housing Market

National Conditions
Change in Home Prices 2006 – 2011

- >= 0%
- -12 to -1%
- -24 to -13%
- <= -25%

Data from FreddieMac

2011 Statistics

Existing Homes | New Construction
4.26 Million   | 607,000
$164,500       | $212,000
Foreclosure Rates
Dec 2011

Data from Realtytrac

1-in-500 or more
1-in-501 to 1-in-1,000

Shadow Inventory

14 Million Units
Regional Conditions

Number of Sales in 2011
12-Month Price Change

- North Dakota: -8.6%
- South Dakota: +2.9%
- Wyoming: -2.7%
- Montana: +5.4%
- Idaho: -0.1%

Foreclosures and Delinquencies

- North Dakota
- South Dakota
- Wyoming
- Montana
- Idaho

% in Foreclosure ■ % 30-Days Delinquent
Distressed Sales Reduce Price Growth

Metro Area Prices
Median Prices (in $ 1,000s)

- $181
- $191
- $147
- $207
- $238
- $183

Median Prices (in $ 1,000s)

- 3.3%
- 1.4%
- 0.3%
- 4.5%
- 9%
- 3.2%
MT Housing Starts

From Peak

- Silver Bow -25%
- Yellowstone, L&C -50%
- Missoula, Flathead -60%
- Many Other Counties -80%
2012 Conditions

- Incomes Flat
- Limited Wealth
- Abundant Debt
- Shadow Inventories
- Consumer Confidence

2012 Forecast

Overall
- Lower Prices
- Flat Sales
- Higher Rents
- More Construction
Montana’s Rental Markets

Apartment Rent

<table>
<thead>
<tr>
<th>City</th>
<th>1 Bedroom</th>
<th>2 Bedroom</th>
<th>3+ Bedroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butte</td>
<td>$437</td>
<td>$556</td>
<td>$650</td>
</tr>
<tr>
<td>Billings</td>
<td>$448</td>
<td>$638</td>
<td>$837</td>
</tr>
<tr>
<td>Great Falls</td>
<td>$454</td>
<td>$654</td>
<td>$875</td>
</tr>
<tr>
<td>Helena</td>
<td>$488</td>
<td>$699</td>
<td>$1,036</td>
</tr>
<tr>
<td>Bozeman</td>
<td>$489</td>
<td>$641</td>
<td>$1,123</td>
</tr>
<tr>
<td>Kalispell</td>
<td>$501</td>
<td>$626</td>
<td>$817</td>
</tr>
<tr>
<td>Missoula</td>
<td>$626</td>
<td>$694</td>
<td>$747</td>
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</tbody>
</table>
## House Rent

<table>
<thead>
<tr>
<th></th>
<th>1 Bedroom</th>
<th>2 Bedroom</th>
<th>3+ Bedroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butte</td>
<td>$530</td>
<td>$680</td>
<td>$868</td>
</tr>
<tr>
<td>Billings</td>
<td>$604</td>
<td>$880</td>
<td>$1,313</td>
</tr>
<tr>
<td>Great Falls</td>
<td>$450</td>
<td>$875</td>
<td>$1,250</td>
</tr>
<tr>
<td>Helena</td>
<td>$510</td>
<td>$873</td>
<td>$1,030</td>
</tr>
<tr>
<td>Bozeman</td>
<td>$1,042</td>
<td></td>
<td>$1,377</td>
</tr>
<tr>
<td>Kalispell</td>
<td></td>
<td>$838</td>
<td>$1,002</td>
</tr>
<tr>
<td>Missoula</td>
<td>$1,028</td>
<td>$1,419</td>
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</tr>
</tbody>
</table>

## Premium for Renting a House

<table>
<thead>
<tr>
<th></th>
<th>1 Bedroom</th>
<th>2 Bedroom</th>
<th>3+ Bedroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butte</td>
<td>+21%</td>
<td>+22%</td>
<td>+34%</td>
</tr>
<tr>
<td>Billings</td>
<td>+35%</td>
<td>+38%</td>
<td>+57%</td>
</tr>
<tr>
<td>Great Falls</td>
<td>-1%</td>
<td>+34%</td>
<td>+43%</td>
</tr>
<tr>
<td>Helena</td>
<td>+5%</td>
<td>+25%</td>
<td>-1%</td>
</tr>
<tr>
<td>Bozeman</td>
<td>+63%</td>
<td></td>
<td>+23%</td>
</tr>
<tr>
<td>Kalispell</td>
<td>+34%</td>
<td></td>
<td>+23%</td>
</tr>
<tr>
<td>Missoula</td>
<td>+48%</td>
<td></td>
<td>+90%</td>
</tr>
</tbody>
</table>
## Premium: 2 BR House vs. 3 BR Apt.

<table>
<thead>
<tr>
<th></th>
<th>1 BR House vs. 2 BR Apt</th>
<th>2 BR House vs. 3 BR Apt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butte</td>
<td>-5%</td>
<td>+5%</td>
</tr>
<tr>
<td>Billings</td>
<td>-5%</td>
<td>+5%</td>
</tr>
<tr>
<td>Great Falls</td>
<td>-31%</td>
<td>0%</td>
</tr>
<tr>
<td>Helena</td>
<td>-27%</td>
<td>-16%</td>
</tr>
<tr>
<td>Bozeman</td>
<td></td>
<td>-7%</td>
</tr>
<tr>
<td>Kalispell</td>
<td></td>
<td>+3%</td>
</tr>
<tr>
<td>Missoula</td>
<td></td>
<td>+38%</td>
</tr>
</tbody>
</table>
Montana Manufacturing: 2012 Outlook

Todd A. Morgan, CF

U.S. Manufacturing

- 5.5 million fewer jobs than in 2000
- Annual worker income down by $49 billion
- Gross output down by $296 billion
Manufacturing Outlook

Montana & U.S. Manufacturing Employment 1990-2010

<table>
<thead>
<tr>
<th>MT workers</th>
<th>US workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>28,000</td>
<td>21,000,000</td>
</tr>
<tr>
<td>24,000</td>
<td>18,000,000</td>
</tr>
<tr>
<td>20,000</td>
<td>15,000,000</td>
</tr>
<tr>
<td>16,000</td>
<td>12,000,000</td>
</tr>
<tr>
<td>12,000</td>
<td>9,000,000</td>
</tr>
</tbody>
</table>

Source: BEA-REIS SA-25N

Montana Manufacturing
2011 Labor Income

Total Employment: ~19,938
Total Labor Income: $1.08 billion

Sources: BEA-REIS; Census Bureau; and BBER estimates
Flathead County Manufacturing
2009 Labor Income

Wood & Furniture 47%
Other Durable Goods 35%
Other Non-durable Goods 7%
Food & Beverage 3%
Computers & Electronics 3%
Metals & Related 5%

Total Labor Income: $149.5 million
Total Employment: 3,040

Sources: BEA-REIS; Census Bureau

2011-2012 Montana Manufacturers Survey

- annual survey
- conducted in December
- open-ended & multi-choice questions
- current & coming year
- 211 firms participated
- response rate > 88%
Montana Manufacturing 2011 Recap

- Better than 2010 for many firms
- Employment down at one-quarter of firms
- Many firms reported increased production, sales, and profits
- Few firms reported curtailments
- 44% of firms did make major capital expenditures

Montana Manufacturing Outlook for the Coming Year

<table>
<thead>
<tr>
<th>Percent of Firms</th>
<th>Better than last year</th>
<th>Same as last year</th>
<th>Worse than last year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlook for 2011</td>
<td>52%</td>
<td>41%</td>
<td>13%</td>
</tr>
<tr>
<td>Outlook for 2012</td>
<td>36%</td>
<td>45%</td>
<td>11%</td>
</tr>
</tbody>
</table>
Montana Manufacturing Forecast for 2012

- Little change is expected
- Recovery dependent on broader US economy & international factors
- Health insurance costs & workers comp remain the greatest concerns
- Half of MT manufacturers expect their energy costs to increase
Montana Forest Products: 2012 Outlook

Montana Forest Products Outlook for the Coming Year

<table>
<thead>
<tr>
<th>Percent of Firms</th>
<th>Outlook for 2012</th>
<th>Outlook for 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better than last year</td>
<td>46%</td>
<td>11%</td>
</tr>
<tr>
<td>Same as last year</td>
<td>76%</td>
<td>37%</td>
</tr>
<tr>
<td>Worse than last year</td>
<td>11%</td>
<td>17%</td>
</tr>
</tbody>
</table>
Forest Products Employment Outlook for the Coming Year

<table>
<thead>
<tr>
<th>Percent of Firms</th>
<th>Outlook for 2012</th>
<th>Outlook for 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than last year</td>
<td>16% 35%</td>
<td></td>
</tr>
<tr>
<td>Same as last year</td>
<td>71% 59%</td>
<td></td>
</tr>
<tr>
<td>Fewer than last year</td>
<td>7% 7%</td>
<td></td>
</tr>
</tbody>
</table>

Forest Industry Conditions

- Slow recovery in US housing
- Chinese lumber & log demand could impact Montana
- Wood energy markets are slowly emerging
- Retaining industry is important to forest landowners
- The industry is changing
Montana Forest Products Industry Forecast

- 2012 markets are expected to be somewhat better than 2011.
- Timber harvest & lumber production may increase slightly.
- Employment is expected to stay low.
- Forests will become more expensive to manage.
Who is ZAI?

Montana-based battery technology company (Flathead Valley)
Privately financed – Over $4M raised (non-institutional funds)

“Zinc-based” energy technologies
   Grid Scale Flow Battery (Now)
   Mechanically Recharged Fuel Cell (Soon)

Small, highly-experienced team (20 Employees)
   World Class Technical Board of Advisors

Focused on speed to sustainable revenue

*Technology is the means to an end, not an end itself.*
Why Grid Storage? There is No Inventory of Electricity

Old Electricity Value Chain: Challenges
- Regulated utility bundled functions
- One price does it all

New Value Chain with Energy Storage: Solutions
- Unbundled services
- Unbundled prices
- New service strategies
- Private services


Immediate Market Opportunities
- Utilities, Renewables, Community/Residential, Industrial
- Arbitrage, Ancillary, Renewable Stability, Backup, T&D

Critical Needs for ZAI & Other Small Businesses

Capital
Coordinated private/institutional funding sources

Employees
Educated/skilled labor, training, entrepreneurial lifestyle

Vendor Networks
Established and mature supply chain and vendors

Customers
Access to network of businesses/customers

Business Culture
Coordinated Local, State and Federal support

Community Based Business Development is a philosophy NOT a strategy
ZAI’s Community Based Plan & Results

Capital – over $4M raised in private funding
   Chamber Open Houses – Business leader and investor focused
   60% of current financing round was funded by local community

Employees – 5 to 20 employees in 6 months
   Local community college alumni and business networks
   Quality local talent from established industries in the Flathead

Vendor Networks
   Strong Chamber involvement to reciprocate support of local businesses
   Leverage of existing supply chains from established industries

Customers
   Montana is an energy exporter with an expanding renewable portfolio

Thank You

Zinc Air, Incorporated
5314 US Highway 2 West
Columbia Falls, MT 59912

info@zincairinc.com
(406) 755-ZINC
Montana Chamber of Commerce
Calendar of Events

Safety Training Workshops
www.MTSafetyChoices.com

Montana Candidate Schools
February 7-10, 2012
Great Falls, Missoula, Bozeman, Billings

Montana Chamber Summer Meeting
June 20-21, 2012
Fort Benton

2012 Governors’ Cup Golf Tournament
August 2-4, 2012
Flathead Valley
www.MontanaGovernorsCup2012.com

Montana Goes to China Tour,
October 8-17, 2012
www.MontanaGoesToChina.com

Montana Chamber Annual Meeting
October 10-11, 2012
Missoula

Check out
www.MontanaChamber.com
for the latest Montana business news and resources
Midyear Update to the Economic Outlook

Kalispell
August 2, 2012 (Thursday)
Noon – 1:30 p.m.
Kalispell Hilton Garden Inn

Helena
August 8, 2012 (Wednesday)
Noon – 1:30 p.m.
Helena Red Lion Colonial

Billings
August 7, 2012 (Tuesday)
7:00 – 8:30 a.m.
Billings Crowne Plaza

Butte
August 9, 2012 (Thursday)
7:00 – 8:30 a.m.
Butte Quality Inn & Suites
(War Bonnet)

Bozeman
August 7, 2012 (Tuesday)
Noon – 1:30 p.m.
Bozeman GranTree

Missoula
August 9, 2012 (Thursday)
Noon – 1:30 p.m.
Missoula Hilton Garden Inn

Great Falls
August 8, 2012 (Wednesday)
7:00 – 8:30 a.m.
Great Falls Hilton Garden Inn

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Montana Chamber of Commerce
Treasure State Investors