Today’s Economy & the Role of Federal Lands
## Outline

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</table>
Federal lands

Bureau of Land Management
23%

Forest Service
19%

National Park
3%

Remainder: U.S. Fish & Wildlife & military, other

All federal lands
48% of West

State lands
6%

Rounded %. Fed. Lands also include military, fish & wildlife. U.S. Geological Survey, Gap Analysis Program. 2016. U.S. Protected Areas Database (PADUS) v. 1.4
Economic roles of federal lands
We define non-metro as rural. Metro counties contain a core population of 50,000 or more people or are “outlying” counties and tied economically to the core areas by labor force commuting. Data from: U.S. Department of Commerce. 2016. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Table CA2SN. Agriculture in 2015 represented 3% of total personal income in the non-metro, or rural West.
Wildlife & Biodiversity

Photo: National Park Service http://www.nps.gov/arch/photosmultimedia/index.htm
Scenery

Photo: National Park Service http://www.nps.gov/arch/photosmultimedia/index.htm
Culture, Heritage
Outdoor Recreation

$646 billion in retail sales
6.1 million jobs

$40 billion in federal tax revenues
$40 billion in state/local tax revenues

In the West:

1.9 million direct jobs in outdoor recreation (80% the size of construction sector)

95% of western voters visited federal lands in 2015

Federal lands recreation responsible for at least $51 billion in visitor expenditures

143 million Americans participate

Ecosystem Services

Water purification, erosion & flood control, carbon storage, climate regulation, pollination, medicine, etc.

Example:

**National Forests**

Water for 66 million people in 3,400 communities worth $7.2 billion annually

In the West:

National Forests provide 33% of our water

86% in Washington State

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Community Economic Development

Federal lands, as a setting, make a community a pleasant place to live & do business. Retain people & business
Amenity Migration

Federal lands attract people & business, moving for jobs AND lifestyle
Recruit Talent

“Our quality of life is defined by our public lands and access to them. This gives us and other tech companies in Montana a distinct competitive advantage. We can recruit and retain top talent successfully within and outside the state because of the world-class landscape that surrounds us.”

*Lance Trebesch CEO, TicketPrinting.com*
Economic context

Let’s start with the U.S. economy
U.S. economy

Most job growth in services

U.S. change in jobs 2000-2015
(% of total growth in parenthesis)

Health care & social assistance (20.5%)
Accommodation & food services (11.3%)
Real estate & rental & leasing (10.7%)
Professional & technical services (10.5%)
Administrative & waste services (6.9%)
Other services, except public admin. (6.8%)
Educational services (6.0%)
Finance & insurance (5.9%)
Government & government enterprises (3.9%)
Transportation & warehousing (3.7%)
Arts, entertainment, & recreation (3.6%)
Mining (2.4%)
Retail Trade (2.3%)
Management of companies & enterprises (2.1%)
Wholesale trade (1.7%)
Construction (1.3%)
Forestry, fishing, & related activities (.4%)
Utilities
Farm employment
Information
Manufacturing

31 million new jobs
> 95% in services

Value of production & jobs track closely

Professional, scientific & tech. services

Health care

All industries in U.S.

Manufacturing is an exception

Productivity higher than ever, but with fewer workers

88% of job loss due to automation

Other sectors outperforming manufacturing

Example:

- **Professional, Scientific, & Technical Services**: $33.17
- **Health & Social Assistance**: $22.43
- **Manufacturing**: $20.04

<table>
<thead>
<tr>
<th>Category</th>
<th>Average Hourly Earnings</th>
<th>U.S. Jobs (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional, Scientific, &amp; T.</td>
<td>$33.17</td>
<td>19.8</td>
</tr>
<tr>
<td>Health &amp; S. A.</td>
<td>$22.43</td>
<td>18.7</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>$20.04</td>
<td>12.3</td>
</tr>
</tbody>
</table>

Figures for U.S. http://www.bls.gov/industries_at_a_glance
Workers produce more, but wages have not kept up

% gain in worker productivity vs. compensation, 1948-2013

Figure is for U.S. . Adapted from Washington Post, Wonkblog. March 10, 2017. https://www.washingtonpost.com/news/wonk/wp/2017/03/10/the-people-who-were-left-behind-two-months-ago-are-still-left-behind/?utm_term=.6d19ba72044a
Economic context

The West
The West outperforms the rest of the country

For details on the West’s performance compared to the rest of the country, see: https://headwaterseconomics.org/economic-development/trends-performance/west-wide-summary/
Most job growth in services

West change in jobs 2000-2015
(% of total growth in parenthesis)

- Health care & social assistance (22.0%)
- Professional & technical services (10.5%)
- Real estate & rental & leasing (10.3%)
- Accommodation & food services (10.2%)
- Administrative & waste services (6.8%)
- Other services, except public admin. (6.4%)
- Educational services (5.2%)
- Retail Trade (5.1%)
- Government & government enterprises (4.8%)
- Finance & insurance (4.6%)
- Transportation & warehousing (4.1%)
- Arts, entertainment, & recreation (4.0%)
- Wholesale trade (2.6%)
- Mining (1.6%)
- Forestry, fishing, & related activities (1.0%)
- Management of companies & enterprises (.6%)
- Utilities (.1%)
- Construction
- Farm employment
- Information
- Manufacturing

8.4 million new jobs
90% in services
West personal income by source, 2015

- **Government**: 12.4%
- **Non-Labor: retirement, investments, etc.**: 36.1%
- **Services: health, engineering, education, etc.**: 46.8%
- **Extractive: mining, oil, gas, timber**: 11.0%
- **Manufacturing, construction, agriculture**: 1.4%

Rural West – very similar;
personal income by source, 2015

We define rural as non-metro. Metro counties contain a core population of 50,000 or more people or are “outlying” counties and tied economically to the core areas by labor force commuting. Data from: U.S. Department of Commerce. 2016. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Table CA25N. Agriculture in 2015 represented 3% of total personal income in the non-metro, or rural West.
Personal income in the West

- **Services**: Doctors, engineers, lawyers, accountants, waiters, barbers, etc.
- **Non-Labor**: Retirement, investments, Social Security, Medicare, Medicaid, etc.
- **Government**: Local, state, federal
- **Non-Services**: Construction, manufacturing, mining, oil & gas, agriculture, etc.

http://headwaterseconomics.org/dataviz/west-wide-atlas
Why so much growth in services?

> 90% of LABOR income growth in last decade

Demand has increased:

Health care, insurance
High tech products
Leisure, entertainment

Supply has increased:

New industries (software)

Some functions once internal to “goods production” now outsourced & counted as services (e.g. accounting)

Services not highly automated (the way manufacturing is)

Services are 50% of labor income in 2015. Figure is in terms of labor income, a subset of total personal income; the remainder is non-labor income. U.S. Department of Commerce. 2016. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Table CA25N.
Why so much growth in non-labor income?

> 55% of TOTAL PERSONAL INCOME growth in last decade

**Three types of non-labor income:**

- **Investment Related**
  (dividends, interest & rent)

- **Age Related**
  (retirement, Medicare, social security, etc.)

- **Hardship-related**
  (Medicaid, food stamps, etc.)

Non-labor is 36% of TPI in 2015. Figure is in terms of total personal income (labor plus non-labor income). U.S. Department of Commerce. 2016. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Table CA25N For a thorough analysis of the three types of non-labor income, see: https://headwaterseconomics.org/economic-development/trends-performance/non-labor/
Investment-related
20% of total personal income in the West

(Dividends, Interest & Rent)
Age-related
8% of total personal income in the West
(Social Security, Medicare)

Hardship-related
5.7% of total personal income in the West
(Medicaid, income maintenance, unemployment compensation)
Non-labor income will continue to grow

In just five years 1/4 of us will be 55 years or older

Baby Boomers control 80% of the financial assets of the country

75 million are Baby Boomers, born between 1946 and 1964. By 2020, 25% of all workers will be at least 55 years old and every month, more than a quarter-million Americans turn 65. Yet, only 17% of Baby Boomers are currently retired. http://fivethirtyeight.com/features/what-baby-boomers-retirement-means-for-the-u-s-economy/.
Western counties depend mostly on services & non-labor income

> 10% of labor earnings from:

- **Timber**: 1% of all counties
- **Mining**: 12% of all counties (2% oil & gas)

> 50% of labor earnings from:

- **Services**: 41% of all counties

> 50% of total personal income from:

- **Non-Labor**: 25% of all counties

Data for 2015. There are 414 counties in the West, of which 278 are non-metro. From 2000-2015, 80% of counties added population, 19% lost. During that time 74% of non-metro counties grew while 25% lost population. Mining includes oil, gas, coal, minerals. 2% of counties have > 10% of labor earnings from people who work in oil and gas. In terms of non-labor income: 48% of counties with > 20% of TPI from investment income. 70% of counties have > 10% of TPI from age-related income; and 21% have > 10% of TPI from hardship-related sources. Source: U.S. Department of Commerce. 2016. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Table CA05.
A theory of rural development
Access to major population centers is a principle driver of economic opportunity

Tourists need access by air: nearly 4 out of 5 air trips are for leisure (79%)

Air access benefits the rest of the economy; e.g. tech workers travel by air 60-400% more than general workforce

Over time, as a community diversifies from resource industries to include tourism, the economy will expand if transportation infrastructure also expands.
There are 3 types of counties

97% of population lives in either METRO or CONNECTED

**METRO** (& commuter shed)
- Higher wages
- Less volatility
- More high-wage services
- Fastest-growing
- Younger
- More educated

**CONNECTED** (via airports)
- Over time, perform more like METRO

**RURAL & ISOLATED**
- Lowest wages
- Most volatility
- Few high-wage services
- Slowest-growing
- Older & aging
- Less educated

75% of all jobs are concentrated in cities

92% West live in metro areas

75% rest of country

The West is the most urban part of the country

Michael Stratton, used by permission
For over a century pundits have been predicting that new forms of communication would make urban life irrelevant.

To defeat the human need for face-to-face contacts, our technological marvels would need to defeat millions of years of human evolution that has made us into machines for learning from the people next to us.”
“In the twentieth century, competition was about accumulating physical capital. Today it is about attracting the best human capital.”
Higher education levels mean lower unemployment & higher wages.

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Unemployment Rate</th>
<th>Median Weekly Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctoral degree</td>
<td>2.1</td>
<td>1,591</td>
</tr>
<tr>
<td>Professional degree</td>
<td>1.9</td>
<td>1,639</td>
</tr>
<tr>
<td>Master's degree</td>
<td>2.8</td>
<td>1,326</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>3.5</td>
<td>1,101</td>
</tr>
<tr>
<td>Associate's degree</td>
<td>4.5</td>
<td>792</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td></td>
<td>741</td>
</tr>
<tr>
<td>High school diploma</td>
<td>6.0</td>
<td>668</td>
</tr>
<tr>
<td>Less than a high school diploma</td>
<td>9.0</td>
<td>488</td>
</tr>
<tr>
<td>All workers: 5%</td>
<td></td>
<td>All workers: $839</td>
</tr>
</tbody>
</table>

SUMMARY: the economy of the West

Very urban

Urban & rural with airports do better

Resource dependence is rare

Growth in services & non-labor income & Human capital is key

What role do federal public lands play?
Federal lands & rural economies
What is the economic performance of rural counties with federal lands?
Counts with more federal lands grow faster

County share of federal land in rural western counties:

- **Population**: 20% bottom, 97% top
- **Employment**: 51% bottom, 157% top
- **Personal Income**: 57% bottom, 90% top
- **Per Capita Income**: 61% bottom, 223% top

Average growth 1970-2015

As a group, these counties have experienced more economic growth.

As a group, these counties have experienced less economic growth.

Growth could be because of recreation, timber, minerals, energy, services, migration, non-labor income, home building, medical, etc.
25% of federal lands are PROTECTED

Federal lands in the West: 346 million acres
(non-military)

**Protected** (Nat. Park, Wilderness, N. Monument, etc.)
25%

**Somewhat protected** (Wilderness Study, Roadless)
14%

**Multiple Use**
61%

Protected includes: National Parks and Preserves (NPS), Wilderness (NPS, FWS, FS, BLM), National Conservation Areas (BLM), National Monuments (NPS, FS, BLM), National Recreation Areas (NPS, FS, BLM), National Wild and Scenic Rivers (NPS, FS, BLM), Waterfowl Production Areas (FWS), Wildlife Management Areas (FWS), Research Natural Areas (FS, BLM), Areas of Critical Environmental Concern (BLM), and National Wildlife Refuges (FWS).

Somewhat protected includes: Wilderness Study Areas (NPS, FWS, FS, BLM), Inventoried Roadless Areas (FS).

Multiple use includes Public Domain Lands (BLM), O&C Lands (BLM), National Forests and Grasslands (FS).

Source: U.S. Geological Survey, Gap Analysis Program. 2016. Protected Areas Database of the United States (PADUS) version 1.4
Counties with more PROTECTED federal lands grow faster

Average growth 1970-2015

County share of PROTECTED federal land in rural western counties:

- **Bottom 25th percentile**
  - Population: 34%
  - Employment: 72%
  - Personal Income: 252%
  - Per Capita Income: 54%

- **Top 25th percentile**
  - Population: 89%
  - Employment: 169%
  - Personal Income: 108%
  - Per Capita Income: 73%

Rural counties with high level of PROTECTED have faster personal income growth

Average Total Personal Income Growth 1970-2015

County share of PROTECTED federal land:

Top 25th percentile

Bottom 25th percentile

Protected federal lands explain part of the relative size of per capita income for rural counties

Relative to other factors, including migration, education, age-related non-labor income, elevation, airport travel time, resource dependence & others.

For each 100,000 acres of Wilderness, National Park, National Monument in a county the Per Capita Income increases $4,360

If counties A & B were identical in every way, but county A had a 50,000 acres of protected public land and county B had none, you would expect income in county A to be on average $2,180 higher per person.
National Monuments: growth before & after designation

17 National Monuments >10,000 acres & designated in 1982 or later – economy grew in each

Does not imply cause & effect, but proves no decline in economy

Cascade-Siskiyou
Designated: 2000

Grand Canyon Parashant
Designated: 2000

Grand Staircase-Escalante
Designated: 1996

The above are examples. To see how each monument performed, see: https://headwaterseconomics.org/dataviz/national-monuments/
National Parks create jobs

In the WEST

104 million visitors spent $6.7 billion
creating 104,000 jobs &
$3.7 billion in labor income

In the U.S. 307 million visitors spent $16.9 billion, creating 293,300 jobs & $11.1 billion in labor income
Retirees migrate to western counties with protected public lands

Average Net Migration Rate, 1970 to 2010, by Age, for Western Counties Based on Protected Public Lands

- All Seniors (55+)
  - Counties in the bottom 50% of protected public lands: 6%
  - Counties in the top 50% of protected public lands: 11%

- Pre-retirees (55-64)
  - Counties in the bottom 50% of protected public lands: 10%
  - Counties in the top 50% of protected public lands: 17%

- Retirees (65-74)
  - Counties in the bottom 50% of protected public lands: 7%
  - Counties in the top 50% of protected public lands: 13%

Federal lands & politics
Parts of the rural West are being left behind

“It is our goal to get the logger back to logging, to get the rancher back to ranching, to get the miner back to mining, the farmer back to farming — and to jump-start this economy in Harney County.”

Ammon Bundy
Malheur Wildlife Refuge

Photo AP/Rick Bowmer via http://www.salon.com/2016/01/09/ammon_bundy_is_not_a_terrorist_the_authorities_are_waiting_out_the_militia_just_as_they_should_do_with_black_lives_matter_protesters/
Manufacturing automation also impacts rural Western counties

In Oregon, the most timber-dependent state, timber harvests increased by 50% between 2009 & 2013, while timber employment increased by 1%

**Rural western county economics affects politics**

<table>
<thead>
<tr>
<th>Rural counties have:</th>
<th>Rural (Non-Metro)</th>
<th>Urban (Metro)</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Families below poverty</td>
<td>9.4%</td>
<td>11.9%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Households receiving:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplemental S. Security (welfare)</td>
<td>4.8%</td>
<td>5.3%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Food stamps</td>
<td>9.8%</td>
<td>10.9%</td>
<td>13%</td>
</tr>
<tr>
<td>Retirement income</td>
<td>22.8%</td>
<td>16.1%</td>
<td>17.8%</td>
</tr>
<tr>
<td>Social Security</td>
<td>36.4%</td>
<td>26%</td>
<td>29.3%</td>
</tr>
<tr>
<td>% population 65 yrs. or older</td>
<td>17.3%</td>
<td>12.2%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Rate of job growth 2000-2015</td>
<td>12%</td>
<td>21%</td>
<td>15%</td>
</tr>
<tr>
<td>Ave. earnings/job 2015</td>
<td>$44,336</td>
<td>$62,338</td>
<td>$58,228</td>
</tr>
</tbody>
</table>

Job growth is not evenly distributed

16% of counties lost jobs in the last decade

Rural isolated counties perform worse than those connected via air travel

Are differences in job growth reflected in the 2016 presidential election?

Or are they also a reflection of rural counties being older, with older voters favoring Trump?

http://brilliantmaps.com/2016-county-election-map/. “Red vs. Blue Political Divide May Really Be About Young vs. Old”
http://www.nbcnews.com/politics/politics-news/red-vs-blue-political-divide-may-really-be-about-young-n725651
Not surprisingly, tensions rise on all sides
POLL: Westerners visit public land the most

Visited in the last year

West

93%

U.S.

78%

17% of westerners visited more than 20 times, compared to 4% for U.S.

2016 surveys by Dave Metz/Fairbank, Maslin, Maullin, Metz & Associates, Lori Weigel/Public Opinion Strategies.
POLL: Most believe federal public lands help economy

- Helps our economy: 72%
- Hurts: 6%
- Has little impact: 19%

2016 surveys by Dave Metz/Fairbank, Maslin, Maullin, Metz & Associates, Lori Weigel/Public Opinion Strategies.
POLL: Westerners support conservation of federal lands

- 68% protect clean water, air, wildlife while providing access to national public lands
- 58% strongly oppose turning federal lands to states (33% support)
- 80% National Monuments - keep them that way
- 75% conservation of public lands a top issue when deciding on a candidate
- 75% support Land & Water Conservation Fund

Federal lands are in the news

**The Washington Post**

House GOP rules change will make it easier to sell off federal land

**The New York Times**

Nominee for Interior Vows to Preserve, and Develop, Public Lands

**Idaho Statesman**

Chaffetz withdraws public land sale bill after outcry from hunters, anglers

Outdoor Retailer is leaving Utah over public lands issues, a move Herbert calls ‘offensive’

Generated $45 million for Salt Lake City
RESOURCES

Headwaters Economics: https://headwaterseconomics.org/

Free analytical tools: https://headwaterseconomics.org/tools/

Public lands: https://headwaterseconomics.org/topic/public-lands/
  
  
  
  
  
Economic development: https://headwaterseconomics.org/topic/economic-development/
  
  Local studies: https://headwaterseconomics.org/topic/economic-development/local-studies/
  
  Three Wests: https://headwaterseconomics.org/dataviz/three-wests/
  
Trails benefits library: https://headwaterseconomics.org/trail/

For high resolution copies of any slide please contact Ray Rasker ray@headwaterseconomics.org or 406 570-7044
Caveats

Federal lands = more growth does not imply cause & effect

But, no evidence that public lands, or conservation, hurts local economies

Public land amenities are important, but not sufficient

Also needed:
  - Access to population centers
  - Education
  - Diverse economy

Some differences in economic performance may also be a function of topography and historical land use: communities dominated by flat, arable land tend to depend more on agriculture, and are not doing as well in the rural West. Western lands unsuitable for agriculture are more likely to have a large share of federal land, which in some places has spurred more diverse economic activity.