

# **Social and Economic Aspects of Planning**

## **Introduction**

We will cover the following in this introductory session:

- Course Objectives
- Agenda
- Why Consider Social and Economic Analyses
- Using Tool Box Approach
- Pinedale Experience
- Economic Concepts and Variables
- Social Concepts and Variables

## How to Get the Most Out of this Course

- Print the course notebook.
- Read instructor notes – found at the bottom of each page.
- Set aside quality time.
- Use headphones or adjust the sound.
- Complete exercises, pre and post tests.
- Break the course into chunks.

## Social Science Activities in Land Use Planning

Planning Steps	Social Science Activities
Steps 1 & 2: Identify and Develop Planning Criteria	<ul style="list-style-type: none"> <li>•Identify publics and strategies to reach them</li> <li>•Identify social and economic issues</li> <li>•Identify social and economic planning criteria</li> </ul>
Step 3: Inventory Data	<ul style="list-style-type: none"> <li>•Identify inventory method</li> <li>•Collect necessary social and economic (S/E) data</li> </ul>
Step 4: Analyze Management Situation	<ul style="list-style-type: none"> <li>•Conduct S/E assessment of continuing current management.</li> <li>•Document assessment methods appendix or technical report</li> </ul>
Step 5: Formulate Alternatives	<ul style="list-style-type: none"> <li>•Identify S/E opportunities and constraints to formulate alternatives</li> </ul>
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Step 7, 8: Identify Preferred Alternative and finalize Plan	<ul style="list-style-type: none"> <li>•Identify potential S/E factors to help select the preferred alternative</li> </ul>
Step 9: Monitor/evaluate	<ul style="list-style-type: none"> <li>•Track S/E indicators</li> </ul>

This shows the steps in the BLM Resource Management Planning (RMP) process and corresponding social and economic tasks associated with each step. We will discuss the social and economic tasks and relevant analyses tools and techniques for each planning step as we go through this course.

## Course Objectives

- Determine what questions to ask regarding social and economic aspects of each planning step.
- Determine how to (and who can) obtain and interpret necessary social and economic information.
- Ensure social and economic aspects are integrated into each step of the planning process and used to make sound decisions.
- Determine opportunities for collaboration while conducting social and economic analyses.

Goals of this course are to:

- Show how to do it right;
- Show how to make your social and economic information and analyses the best they can be considering the time, money, and expertise available and no matter where you happen to be in the planning process; and
- Recognize that collaboration includes increased effort to work with cooperating agencies (local, state, federal, tribal entities of government): “Clarke said the cooperating agency relationship outlined in the revised planning regulations will ensure that the planning process incorporates local knowledge of economic, social, and political conditions and addresses local interests and values.” Press release 3/10/04

Social and economic considerations should play an equal role with other resources in the development of the management alternatives and ultimately in the formulation of the Preferred Alternative. Many of the impacts associated with BLM decisions affect the livelihood of the people living in the study area. But in addition to the economic impacts, there can be major impacts on the infrastructure and social fabric of the area. This could include impacts on the quality of life, road use and maintenance, access to different types of recreation activities, etc. And in order to do a better job of formulating the management alternatives and selecting the Preferred Alternative, these social and economic impacts must be considered along with the other resource considerations during the time when the alternatives are being developed. By taking this approach, social and economic aspects would be elevated to a position on par with the other resource considerations and the social and economic analyses would not be conducted in a reactionary mode to merely point out the impacts as a result of the management alternatives that were formulated based on resource considerations alone.

## A Tool Box Approach

- A range of techniques can be used to address different planning issues.
- Not every technique will be used in every RMP.
- What techniques are applicable and when to apply.
- Not our purpose to teach how to do the techniques.

Although we're not teaching the nuts and bolts of how to use all the techniques, you will learn some techniques that you could go right back to your office and use immediately!

1. Common economic tools used in establishing baseline data and assessing impacts are:
  - Sonoran Institute's (EPS and EPSC)
  - Input Output analysis (I/O)
  - Travel Cost, Benefit Cost analysis (B/C)
  - Contingent Valuation Methodology (CVM)
2. The following RMPs are examples of where the above tools have either been used or there are plans to use them:
  - a. Snake River RMP  
Travel Cost, Contingent Valuation Methodology (CVM)
  - b. Pinedale RMP  
Sonoran Institute's (EPS and EPSC), Input Output analysis (I/O)
  - c. Kemmerer RMP  
Sonoran Institute's (EPS and EPSC), Input Output analysis (I/O)
  - d. Craig RMP  
Sonoran Institute's (EPS and EPSC), Input Output analysis (I/O) (Planned),  
Travel Cost (Planned), Benefit Cost analysis (B/C) (Planned),  
Contingent Valuation Methodology (CVM) (Planned)

## Scales of Social and Economic Analysis

- **Fine scale:** individual / household level (required for grazing impacts; psychological impacts)
- **Mid scale:** community-level analyses
- **Broad scale:** county-level or regional economic analyses
- **National scale:** passive use values of national or international publics

### Examples of economic or social analysis tools:

**Fine Scale:** Ranch budget for allotment management plan.

**Mid-Scale:** Input-output analysis (IMPLAN) at the community level for an OHV Travel Management Plan EA; analysis of the effects to a community's infrastructure such as a road system.

**Broad Scale:** Input-Output Analysis using IMPLAN at RMP level; interviews conducted for the social impact analysis at the RMP level.

**National Scale:** Survey sample may be national due to national visibility or resource within the RMP area (Snake River through Jackson Hole CVM)

## Why Conduct Social and Economic Analyses?

- Legal / statutory / administrative mandates
  - NEPA: Consider effects on human environment
  - FLPMA: Consider relative values of resources
  - Environmental Justice (Exec. Order 12898)
- Public demand for meaningful social and economic analyses.
- Utah State University review and other examples demonstrate the need for S / E analyses.
- There's room for improvement....

By statute, regulation, and Executive order the BLM must utilize social science in the preparation of informed, sustainable land use planning decisions. Section 202(c)(2) of FLPMA requires BLM to integrate physical, biological, economic, and other sciences in developing land-use plans (43 USC 1712(c)(2)). FLPMA regulations 43 CFR 1610.4-6 also require BLM to analyze social, economic, and institutional information. Section 102(2)(A) of NEPA requires Federal agencies to “insure the integrated use of natural and social sciences...in planning and decision making” (42 USC 4332(2)(A)). Federal agencies are also required to “identify and address...disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States” in accordance with Executive Order 12898 on Environmental Justice. – BLM Land Use Planning Handbook H-1601-1 Rel. 03/11/05 Appendix D, page.

Council on Environmental Quality (CEQ) regulations provide further guidance that applies to social and economic aspects of environmental analyses and planning:

- It is analytic, not encyclopedic (40 CFR 1502.2)
- It is prepared using an interdisciplinary approach which insures the integrated use of the natural and social sciences and the environmental design arts (40 CFR 1502.6)
- Agencies shall insure professional integrity, including scientific integrity, of the discussions and analyses in NEPA documents (40 CFR 1502.24)
- It is concise, clear, and to point, and supported by evidence that the agency has made the necessary environmental analyses (40 CFR 1502.1)

NEPA 102(a): ...Ensure the integrated use of the natural and social sciences...in planning and decision making which may have an impact on man's environment.

There is frequently public demand for social and economic analyses. People want evidence that decision makers understand and have considered how people and their **communities** and lifestyles and activities will be affected by changes in management. These can be highly emotional issues that have the potential to become very political because elected officials tend to be concerned about impacts on their constituencies that are viewed as negative! The Montana Challenge is an example of agencies and interest groups being concerned about the natural resource management implications of economic, social, and demographic trends.

If we do an excellent social analysis, we should cover the basis for Environmental Justice analysis. One of the tenants of social analysis is the recognition that groups and individuals are affected differently.

One relevant court case concerned the Northern Cheyenne tribe that challenged a BLM EIS for failing to discuss coal sale probable social, economic, and cultural effects on the tribe. The EIS was overturned and court voided the sale of over 350 million tons of coal with value over \$4 billion. (Northern Cheyenne Tribe v. Hodel, 1985). Other recent appeals of land management plans have been based on similar concerns. The problem with some current planning efforts is that social and economic factors are often not viewed as a factor in issue development and the formulation of the management alternatives or the selection of the Preferred Alternative

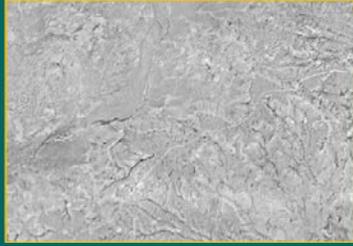
New grazing regulations.

In theory, we will produce better plans if we adequately incorporate social and economic information.

# Pinedale Experience Jonah Field

## *Historical Development*

Jonah - 1994



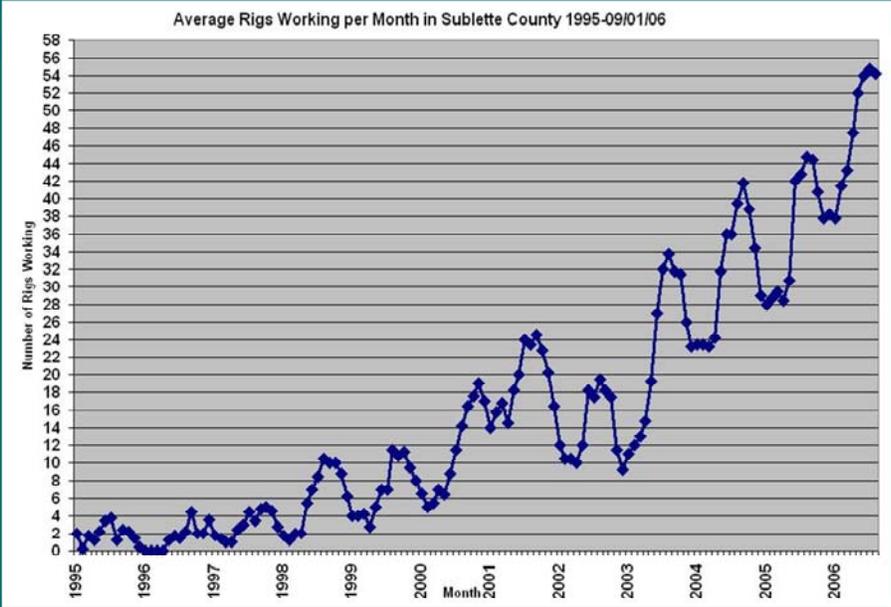
Jonah - 2001

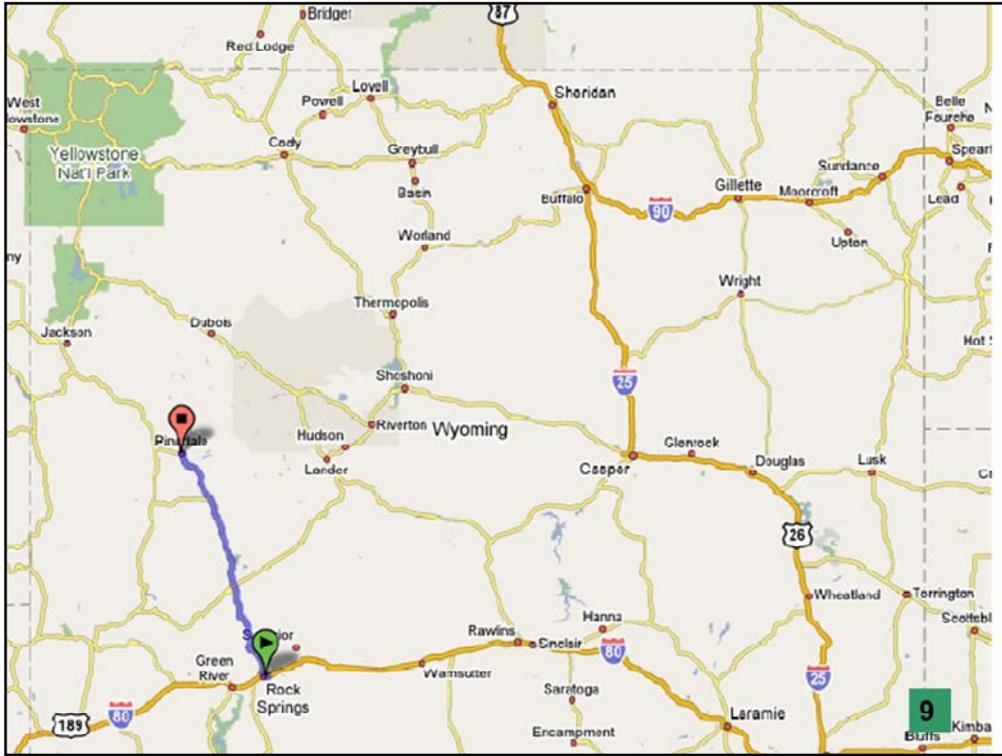


Jonah - 2005



# Pinedale Oil & Gas Boom





## **Socioeconomic Hit List:** **Impacts of the Sublette County, Wyoming Gas Boom**

### **Economic Effects of Energy Industry Growth:**

- How the rig count drives industrialization, workforce, and revenue.
- Workforce shortages
- Transient workforces
- Housing costs
- Gilmore’s “Problem Triangle”

**Hundreds of Different Worksites**

**Hundreds of Different Companies**



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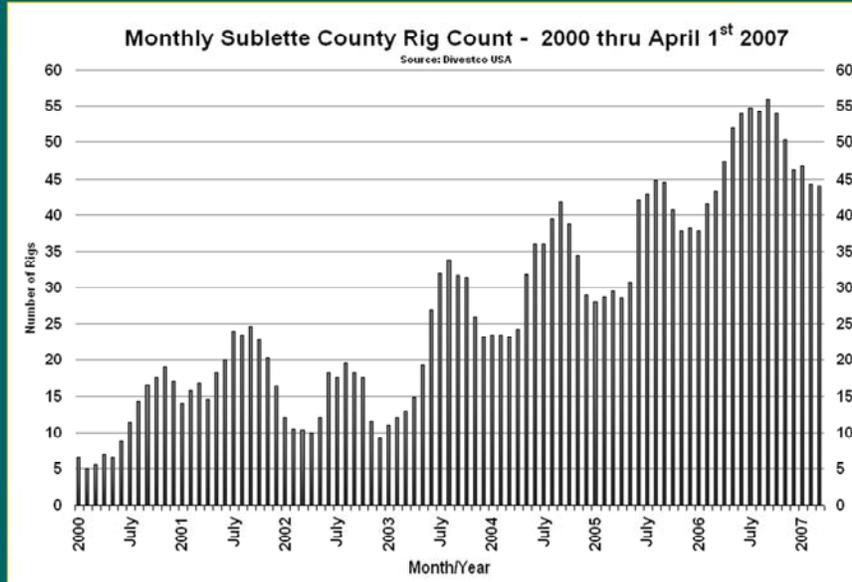
## The Rig Count Drives Everything



## The Rig Count – About 40 Workers Per Rig



# Workforce Fluctuates Widely



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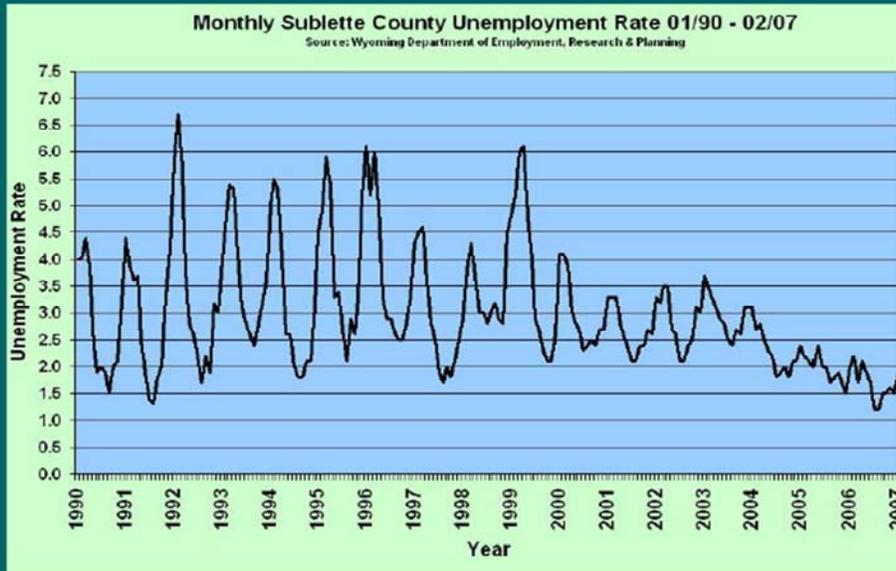
## **Socioeconomic Hit List: Impacts of the Sublette County, WY Gas Boom**

### **Economic Effects of Energy Industry Growth:**

- How The Rig Count drives industrialization, workforce, and revenue.
- Workforce Shortages
- Transient Workforces
- Housing Costs & Population Increases
- Gilmore's "Problem Triangle"

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# Good For Local Workers



## Housing Struggles, so Workers Stay Temporary

They strain local services – but don't provide service industry workforce. Growth is one-sided. Food, entertainment, recreation industries stagnate despite huge demand and incomes

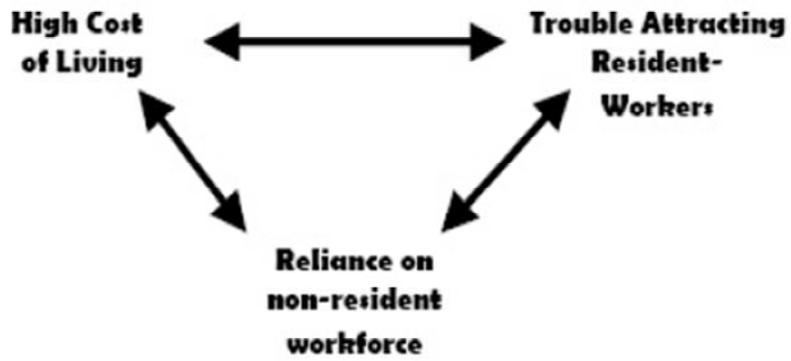


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- How the rig count drives industrialization, workforce, and revenue
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- Housing Costs
- Gilmore's "Problem Triangle"

## John S. Gilmore's Problem Triangle:



Sublette County's Boomtown Problem Triangle

## Socioeconomic Hit List (cont)

### Social Effects of Growth - Moving from an amenity-led community to a wage-earning community

- Loss of community feeling
- Social issues with in-migrants
- Crime
- Education
- Infrastructure

## Socioeconomic Hit List (cont)

**Social Effects of Growth-** Moving from an amenity-led community to a wage-earning community

- Work schedules
- Worker relocation plans
- Connections to the study area
- Deaths and injuries on the job
- Per capita income
- Family income
- Local government and local low-paying businesses struggle to compete with oilfield wages

## Huge Impacts to a Small Town



## Socioeconomic Hit List (Cont)

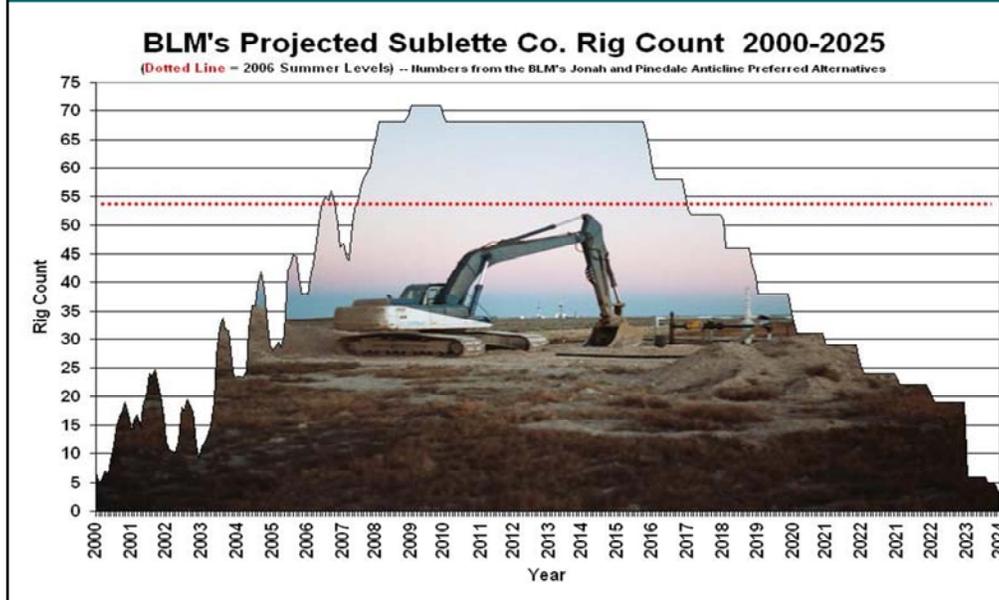
### Distribution of Revenue

- Revenue stream – Royalties and severance taxes
- Local tax revenues
  - \$14 Million (FY-06 in Sublette County)
    - Use taxes - Supplies purchased elsewhere
    - Sales taxes
  - Property taxes (Driven by valuable gas properties)
    - School district (Extra \$ redistributed by the State)

### What's Next:

- Plans for new oil & gas development
  - Need for providing the proposal using maps combined with industry presentations to inform the public on the development being proposed
- Pace of development discussions

# Sustained Development then Big Drop Off



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## **Accurate Social Impact Assessment Tips Lessons Learned in Sublette County**

- **Get involved with the locals if at all possible.**
- **Don't rely on outdated census data - Obtain current local data by meeting with ...**
  - Sheriff's department
  - Health care personnel
  - District Attorney
  - Company spokesmen
  - Mayor
  - County commissioners
  - Local leaders
  - Other federal, state and local agencies
  - Planners
  - School boards
  - Realtors

## **Accurate Social Impact Assessment Tips Lessons Learned in Sublette County**

- **Focus on key impacts.**
  - Substance use
  - Crime
  - Social services
  - Domestic violence
  - Housing
  - Job safety
    - deaths and serious work-related injuries occurring on the job
- **Second home sales and changes in non-earned income**

## **Accurate Social Impact Assessment Tips Lessons Learned in Sublette County - Cont.**

- Express offsite mitigation proposals in terms of dollars per well to put these dollars in a perspective that the public can relate to.
- Express the development costs in a payoff per well so the public gets a clearer understanding of the financial considerations involved in, for example, the development of a major oil and gas field.
- Include a discussion of the life cycle of the field.
- Compute the taxes and other revenues that will be generated and try to balance this against the resultant new demand for services.
- Quantify the market activity (earnings and employment) – input output analysis.

## **Accurate Social Impact Assessment Tips Lessons Learned in Sublette County - Cont.**

- Include use values – travel cost analysis.
- Do not ignore the non-market effects of a major oil and gas field ( this may be only a qualitative discussion in the absence of a non-market study but it still needs to be addressed).
- Make sure the reasonable and foreseeable development scenario “makes sense.”
- Use a common basis of comparison to describe the national importance of the fields anticipated production
  - percentage of national demand.
- Include a discussion of the effects of a "boom bust" scenario.

## Accurate Social Impact Assessment Tips Lessons Learned in Sublette County - Cont.

- Get a feel for the trade-offs.
  - Air quality changes
  - Water quality changes
  - Transportation issues
  - Open space issues
  - Changes in recreational opportunities
  - Impacts on grazing
  - Difficulty in acquiring service employees
  - Impacts on critical wildlife habitat
  - Impacts on wildlife populations
  - Impacts on threatened and/or endangered species
- Present per capita income and family income (constant dollars using a locally derived cost of living index).
- Be aware of the challenges associated with contracted socioeconomic input under tight schedules.

## **Accurate Social Impact Assessment Tips Lessons Learned in Sublette County - Cont.**

### **Data Sources**

- State government data bases
- BLM Specialists
- Clipping Services like the Headwaters News
- High County News
- Industry publications
- Local newspapers
- Local universities
- Sublette Socioeconomics: [www.sublette-se.org](http://www.sublette-se.org)
- Etc.

## Why It's Hard to Get Mitigation: Politics & Power

### Direction of Revenue

Why local government \$\$\$ alone cannot always mitigate problems :

- Staff / expertise shortages – learning curve
  - Local governments
  - Non-profits / community organizations
- Relationship with federal agencies
- Governmental costs of growth

## Why It's Hard to Get Mitigation: Politics & Power

### The role of federal agencies in federal land actions

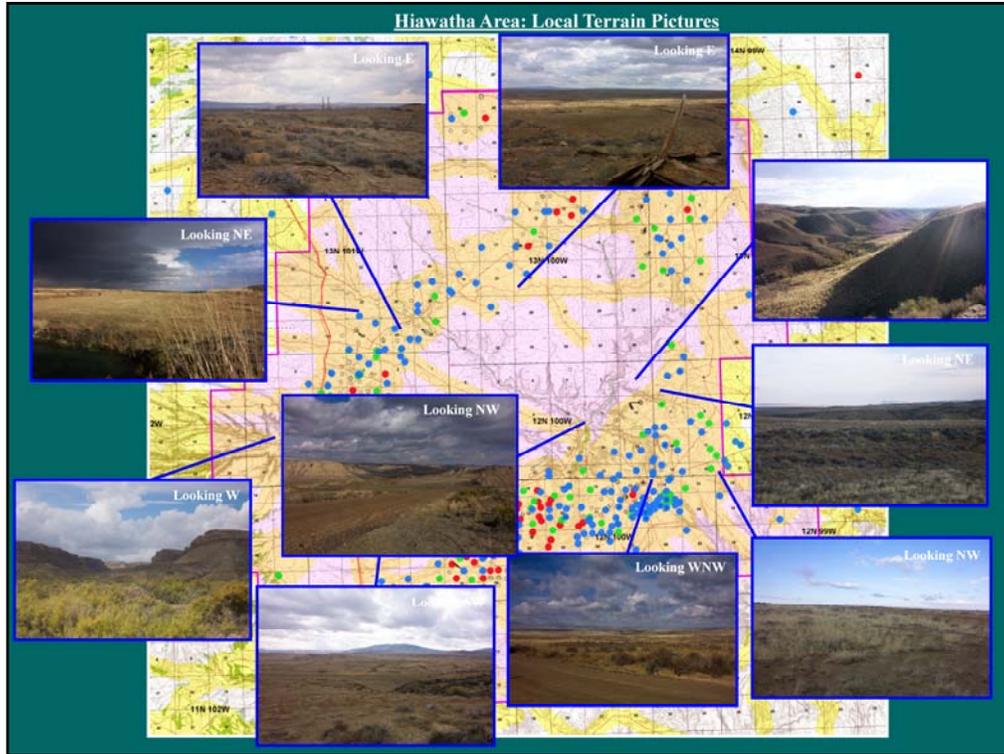
- Offsite mitigation – BLM's position of what qualifies
- The “Adaptive Management” process
- Other federal examples of socioeconomic mitigation

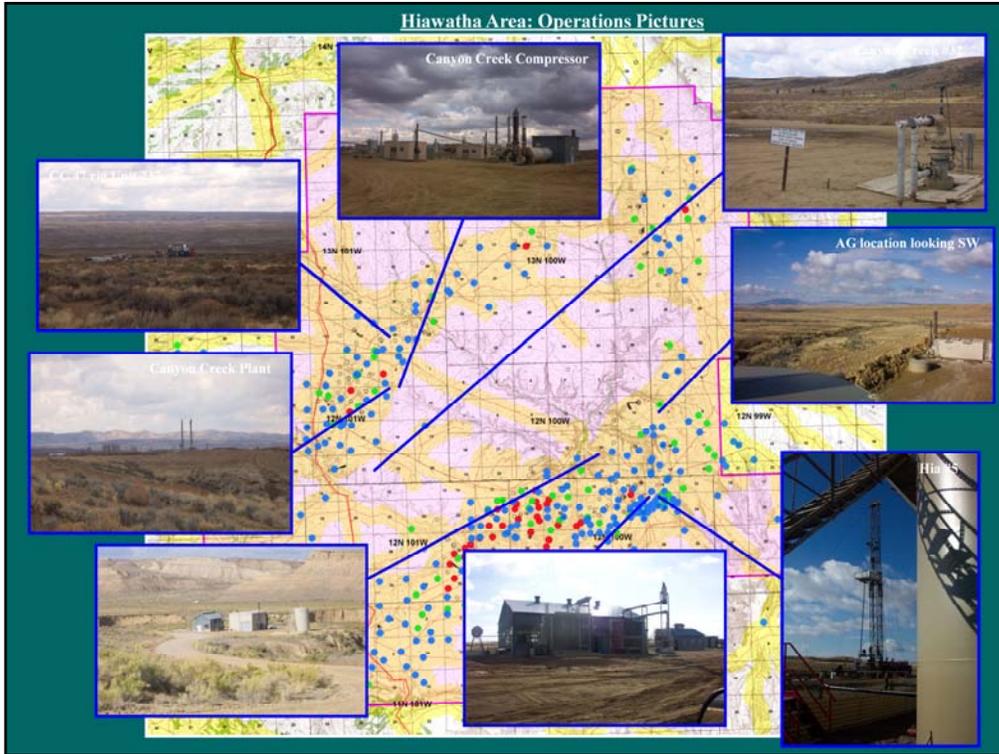
## Why It's Hard to Get Mitigation: Politics & Power

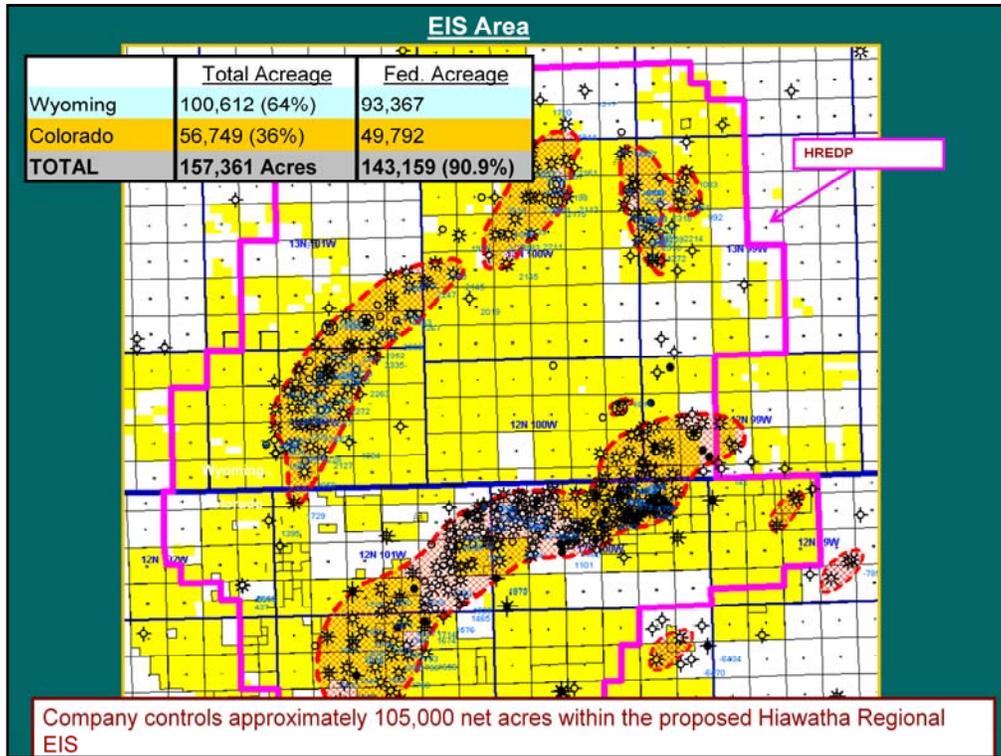
### The role of companies

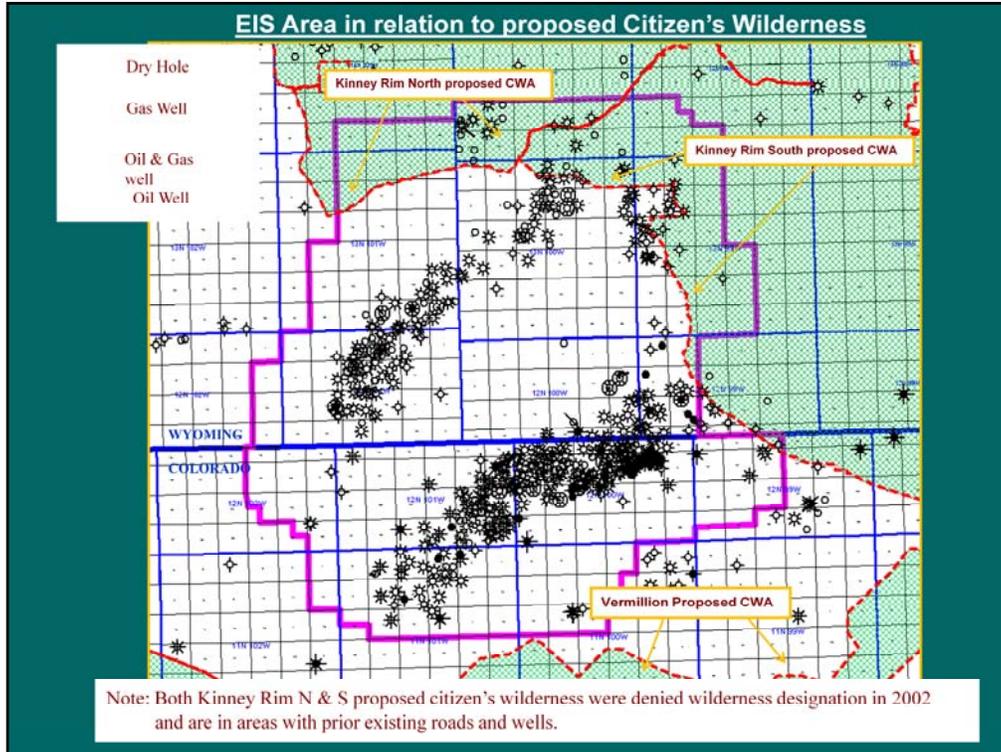
- Historical review
- Gillette and Evanston Wyoming
- Experiences
- Decisions / actions
- Subsequent recommendations
- Compare with our actions

## Excerpts from a Company's Oil and Gas Proposal









# Jonah Field



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# Google Image



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# Jonah Field



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## Economic Concepts

- Economic value
- Jobs and income vs. benefits and costs
- Economic impact analysis

Economic Value is broader than cash flow, revenues or profits. Some actions that are profitable do not always have an overall net economic value to society, e.g. taking Native American Pottery from a site. Some actions that are not profitable may have net economic value to society, e.g. protecting critical habitat for an endangered species at the expense of livestock grazing.

There is a difference between Economic Impacts (e.g. jobs, labor income) and Benefit-Cost analysis. Benefit Cost Analysis measures the economic value to the consumer and producers as the consumer and producer surplus or Net WTP.

The Snake River RMP is an example of where the CVM was used as the analytical technique rather than using an I/O approach.

The oil & gas development south of Pinedale is a good example of how an I/O model is used to quantify the jobs and income generated by this activity.

Reductions in grazing permits in the Green Mountain common allotment is an example of how I/O and CVM could be used together. This example illustrates how the estimated loss in income and jobs associated with a decline in grazing could be balanced against an improvement in wildlife habitat, improvement in riparian areas, maintaining open spaces along historical trails and an improvement in the health of the range.

## Social Concepts

“Social” refers to the *meaning* of BLM-managed lands, resources and opportunities to people.

It overlaps with economics but is distinct in many ways....



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Meaning includes uses, values and benefits/costs. Note that there are many filters through which meaning is determined—such as culture, social norms, individual experiences, and attitudes, beliefs and values. One of these filters is certainly economic—we are typically concerned about how decisions affect us financially—but that’s not the only one and sometimes not the most important.

As used here, we define “people” very broadly as individuals, interest groups, communities, and other social groupings.

By institutions, we mean the structure and organization and entities people have developed to meet challenges of daily life.

## Community

- Territory: (place, local ecology) where people live and meet their daily needs together.
- Local society: comprehensive network of associations for meeting common needs and expressing common interests.
- Community field: process of collective actions for improving common life.



This definition is from Wilkinson (1991) *Community in Rural America*.

Communities are often called villages, towns, cities but can be larger units. They can have roles and functions, such as trade centers.

Quality of life is often considered at community level. Community is a critical scale of analysis because it's typically important to people—where they live, work, and play.

But remember that community is not a homogeneous unit—there may be significant divisions within communities and differing perceptions of the desirability of plan or project impacts.

Community has other definitions too; communities of interest, for example, is a term similar to stakeholders.

Note that although economic information is available at the community scale, communities may not be intact economic units, nor should they have to be.

## Quality of Life



- Culture-specific norms of desired individual and social experience.
- Often measured using a set of indicators, including economic variables.
- How do *you* define it? What portion of it relates to public land management?

Photo: mountain backdrop of Bozeman, Montana

Treasury Board of Canada Secretariat, Quality of Life - A Concept Paper: Defining,

Measuring and Reporting Quality of Life for Canadians. URL: [http://www.tbs-sct.gc.ca/pubs\\_pol/dcgpubs/pubdisc/qol1\\_e.asp#\\_Toc478436448](http://www.tbs-sct.gc.ca/pubs_pol/dcgpubs/pubdisc/qol1_e.asp#_Toc478436448)

What aspects of BLM management can contribute to or detract from quality of life for area residents?

## Sense of Place



- The attachment people feel to a setting, typically through repeated experience.
- Attachments can be spiritual, cultural, aesthetic, economic, recreational, and social.

This is a good example of the importance of meaning—places located on BLM-managed lands are not defined the same by everyone. We have to consider not just the biological or physical character of places—but their social definitions. People can develop strong attachments to rivers, from local resources such as Alberton Gorge on the Clark Fork to internationally-known places like Lava Falls in the Grand Canyon.

## Equity

- People and communities are affected in different ways by management of public lands.
- There will typically be winners and losers, over the short term and long term.
- Equity — and perceptions of the fairness of the planning process and the distribution of effects — is an important social consideration.
- Environmental justice is an equity issue.

Equity concerns the distribution of effects, a necessary complement to many economic analyses that measure net benefits of costs to society but may not measure how those effects are distributed

## Environmental Justice



The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Quote from EPA EJ web site

<http://www.epa.gov/compliance/environmentaljustice/index.html>

The principle, defined through Executive Order and agency policy, that low-income, minority, and tribal groups should not have to experience a disproportionate share of negative effects resulting from a plan or project.

Relevant at all steps of the planning process.

Additional detail and great descriptions are available at:

Final Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses April 1998:

[http://www.epa.gov/Compliance/resources/policies/ej/ej\\_guidance\\_nepa\\_epa0498.pdf](http://www.epa.gov/Compliance/resources/policies/ej/ej_guidance_nepa_epa0498.pdf)

## Key Points

- Social and economic variables should be incorporated into every planning step.
  - Like biophysical variables, social and economic variables can be measured at a variety of scales.
  - The social and economic sciences have their own language and frameworks for studying people and the environment.
  - Consider social and economics information and analyses as separate (but related) topics.
- 
- Socioeconomics

Please note that the symbol is not meant to imply that socioeconomics should not be considered, but that they should not be lumped together or considered a single thing!

# Identify Issues and Develop Planning Criteria

Planning Steps 1 and 2

## Objectives

Upon completion of this section, you should be able to:

- Identify social and economic elements of the prep plan.
- Identify public outreach strategies.
- Identify concerns that influence social and economic issues.
- Describe social and economic issues.
- Identify social and economic planning criteria.

2

<b>Social Science Activities in Land Use Planning</b>	
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This slide summarizes the steps in the BLM Resource Management Planning (RMP) process and corresponding social and economic tasks associated with each step. Steps 1 and 2 of the planning process involve identifying planning issues and developing planning criteria. The corresponding social and economic tasks are to:

- identify publics interested in social and economic issues and strategies for reaching these publics;
- identify social and economic issues; and
- develop social and economic planning criteria

## Tools in the Toolbox

### Planning Tools

- Preparation plan
- Public participation plan
- Planning Issue Identification
- Planning Criteria



### Economic/Social Tools

- H-1601-1, Appendix D
- S / E Statement of Work and deliverables if contracted
- Social / Econ outreach strategy
- Social / Economic issue identification
- Social / Economic criteria

## Preparation Plan Characteristics

### Prep Plans Identify:

- Preliminary resource management issues
- Analytical Skills needed
- Preliminary budget
- Preliminary planning criteria
- Available/needed resource / program data
- Preliminary analytical techniques

### H-1601-1, Appendix D guidance, S/E SOW Identify:

- Preliminary S / E issues
- S / E analytical skills needed
- Preliminary budget for S / E analyses
- Preliminary S / E criteria
- ID resource/program data needed for S / E analyses
- Preliminary S / E analyses techniques

For Preparation Plans in BLM's, consult WO IM 2001-038 and IB 2003-058. IM 2001-038 provides that Preparation Plans should:

1. Identify anticipated planning issues and management concerns;
2. Identify preliminary planning criteria;
3. Identify a format for documents, maps, tables, figures, photographs, materials on the internet, etc.;
4. Identify information or data needed to address issues and planning criteria, or to perform the analysis;
5. Identify available data and data collection/format standards employed; explain how the data supports/ addresses the plan, planning requirements, and issues;
6. Identify known or anticipated data gaps; explain why the data are needed to support/address the plan, planning requirements, and issues;
7. Establish a data inventory and collection plan; include data standards, work-month costs, staffing and skill requirements, and estimated time-frames for an integrated, automated geospatial database to fill in data gaps;
8. Establish a public involvement plan to ensure greater public involvement and wide info distribution;
9. Establish a work plan which identifies the staffing and technology needs to support public involvement and communication through use of the internet; and
10. Identify the analytical process(es) required to address planning issues.

H-1601-1, Appendix D provides guidance on integrating social science information into the planning process. Social science information in land use planning can include the economic, social, political cultural structure of communities and regions; social values, beliefs, and attitudes; how people interact with the landscape; and sense-of-place issues.

## Prep Plan Considerations

- Scope of alternatives and likely degree of change
- Public, decision maker, elected officials, other agencies and other stakeholders' level of demand for social and economic analyses
- Time, funding, personnel, and information limits
- Level and type of effort for the entire plan
- The standard or institutional norm for social and economic data and analyses

Main message: make sure that social and economic concerns are included in the prep plan!

Limits are key; one BLM'er likened conducting social and economic analyses to "working without a net."

One of the outputs of prep plan activities will be decision to do social and economic analyses in house, which if any to contract out, and to develop a scope of work for any contracts.

The Prep Plan provides the foundation and overarching direction for how to do Resource Management Planning. H-1601-1, Appendix D provides guidance on integrating social science information into the planning process. Guidance includes:

1. Using social science in land use planning
2. Incorporating social and economic information, e.g. objectives of the analysis, scope of analysis, deliverable in contracting, and analytic guidelines
3. Public involvement, e.g. Economic Strategies Workshop
4. Environmental Justice requirements
5. Data management and data sources

## Stakeholder Outreach/Involvement

- Plan will have overall public involvement process; use it to collect social and economic information.
- Strongly consider additional effort to obtain views of stakeholders throughout planning process.
- Develop at least a rough strategy and include it in the Prep Plan.

Refer to the Hypothetical Social/Economic Outreach Strategy Summary of Involvement found on next page.

**Bottom line:** you can't adequately assess social impacts without communicating with and hearing from people who will be affected; First principle of SIA from P&G article in back of handbook is: Achieve extensive understanding of local and regional settings to be affected by the action or program or policy.

BLM has new mandate for working more closely with cooperators but your stakeholder outreach effort could also include local and national interest group representatives, community leaders, harsh critics of BLM management, and others.

This is a great place to take advantage of existing partnerships and collaborative planning groups. When developing a plan for the Las Cienagas NCA, the BLM utilized the existing Sonoita Valley Planning Partnership (of which they were a member) vision, goals and objectives to help develop the plan. Just watch out for FACA concerns (Federal Advisory Committee Act).

Voices from the Village example; this can make your analyses come alive and strengthen their credibility and acceptability.

Research examples will be discussed at Steps 3-4.

Appendix D, page 10-11 of the BLM Land Use Planning Handbook (BLM Handbook H-1601-1) addresses public involvement and integrating social sciences into public involvement.

One of the tools described in the Economic Strategies Workshop (These are required; cost \$7,000-\$10,000 per RMP/EIS; involve using the Sonoran Institute's Economic Profile System). These workshops address local and regional economic conditions and trends. They assist community members to identify desired economic and social conditions, and identify opportunities to advance local economic and social goals through BLM decisions.

Economic Outreach Strategy Summary of Involvement					
Project: Shepherd Ah Nei Travel Management Plan		Phase: Scoping-EA		Date: April 2004-April 2005	
Public land user, interest, expert	Contact	Purpose for outreach (issues, alternatives, data)	Method of involvement or contact	Who	When (Identify target dates for each contact)
Adjacent Land Owner	BB	Issues, identify acceptable alternatives, information about use	Personal contact, phone, letters, scoping	Asst. FO Manager	
Adjacent Land Owner	Billings Motorcycle Club	Need for OHV area, use levels, characteristics of users	Site visit	Rec. Specialist	First contact prior to 5/04
OHV businesses	Polaris Motor Sports	Anticipated impacts, expenditures, use local levels	phone	Lynn A	First contact prior to 5/04
Congressional offices	Office of Sen. Burns	Issues, concerns, alternatives, process	briefing	FO Manager	Prior to news release
MT FW&P	KH	Issues, alternatives, use information, expenditures	Personal contact, phone, letters, scoping	Economist, Recreation specialist	
Institute for Tourism & Recreation	Norma Nickerson	OHV user expenditures in MT	phone	Economist	Prior to impact analysis
Custer National Forest	?	OHV user expenditures and characteristics	phone	Economist	Prior to impact analysis
Web search		OHV user expenditure studies	Web search	Economist	Prior to impact analysis
BLM library search	BLM library	OHV user expenditure studies, characteristics	phone	Economist	Prior to impact analysis
FS economist	MN	Issues, alternatives, data, economic assumptions, analysis	phone	Economist	Prior to impact analysis

We've all seen outreach strategies like this, but more frequently for congressional/elected official outreach, not targeting the full range of stakeholders.

## Analytical Techniques

In the Prep Plan, determine appropriate social and economic analyses to address the likely issues:

- Identify likely issues.
- What analytical techniques could be used?
- What data are required?
- Who will collect the data?

Step 3 will address data collection in more detail.

Step 4 will delve into how to compile and analyze the data to describe the management situation. The Prep Plan requires you to think about these steps and the level of effort that will be required.

## Planning Issues

### What is a planning issue?

- A matter of controversy, dispute, or concern over management activities or land use that can be addressed through management alternatives.

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An issue should be well defined, relevant, within the agency's ability to address in the development and analysis of alternatives, (e.g. grazing fees, royalty rates, etc. set nationally not through RMP). Issues are most helpful when written as a neutral question so that both sides of the controversy can be described, such as "How should public lands be managed to ...". Opinions about the issue can be included in a paragraph form to supplement, describe the issue statement/question.

## Planning Issues (cont)

### How are they identified?

- Internally prior to scoping
- Externally during scoping by coordinating with general public, cooperating agencies and other partners, interest groups, etc.

### What do you do with them?

- Craft alternatives to address planning issues.
- Include in effects analysis.

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Some factors used to identify issues include:

- Geographic extent (or context) of the issue (e.g. world prices for beef, oil, timber may have more influence on local economy than BLM RMP)
- How long the issue is likely to be of interest
- Intensity of interest or conflict about the issue

Identifying issues helps to define the full range of perceived and/or probable social and economic impacts to be addressed. For example, what are people most concerned about in terms of how they and their communities and interests will be affected?

The relationship of some planning issues and social science activities are more apparent with some planning issues than others. The Dillon RMP provides good example. The publics and social/economic analyses strategies to reach them, the social/economic issues, and the social/economic analyses criteria for issue 5 or more apparent than for issue 7.

Issue 5: What level of commercial or other authorized use should be allowed in the planning area, and what conditions should be applied to permitted activities?

Issue 7: Should any eligible rivers be recommended for inclusion in the National Wild and Scenic Rivers systems?

## Issues in an Interdisciplinary Context

- All issues are really human issues.
- Economic, biological, physical resource conditions and impacts all have *meaning* to people.
- Sort out in advance which specialist will cover what conditions and effects.
- One specialist's outputs are another's inputs.

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## Issues in the Dillon RMP

- Management of riparian and upland vegetation
- Level of commercial and authorized uses
- Apply conservation strategies for special status species
- Management of forests & woodlands
- Control of noxious weeds
- Identification of ACECs
- Travel management



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Consideration of some issues such as ACEC and National Wild and Scenic Rivers systems is mandated in BLM planning guidance.

## Dillon RMP Use of Collaboration

- Commissioned study to see how the public wanted to be involved (Montana Consensus Council).
- County Commissioner's Rep was member of the ID team.
- RAC involvement throughout the process.
- Additional scoping meetings hosted by the counties.



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## Themes (Issues) in the King Range RMP



- Community support / involvement
- Primitive values / Character
- Resource conservation and management
- Travel management
- Education / Interpretation
- Recreation use
- Fire management

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## Upper Missouri River Breaks National Monument -- Issues

- Health of the land and fire — How should elk winter range be protected?
- Recreation — When should motorized watercraft be allowed on the Upper Missouri River?
- Natural gas exploration and development — How should oil and gas development be managed in the Monument?
- Transportation – Should air strips be allowed in the monument?

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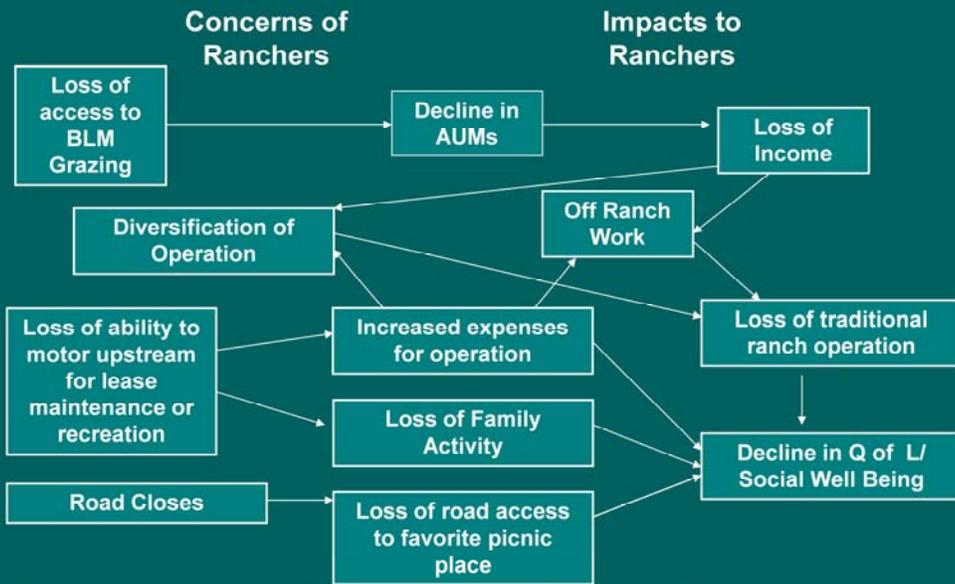
## Cause and Effect Web

- One way to drive effects to their social and economic sides (helps to understand relationships among issues).
- Helps to define effects to individuals and groups.
- Helps decide the level of SIA needed.
- Can serve as a starting point for a public meeting to explore different views.

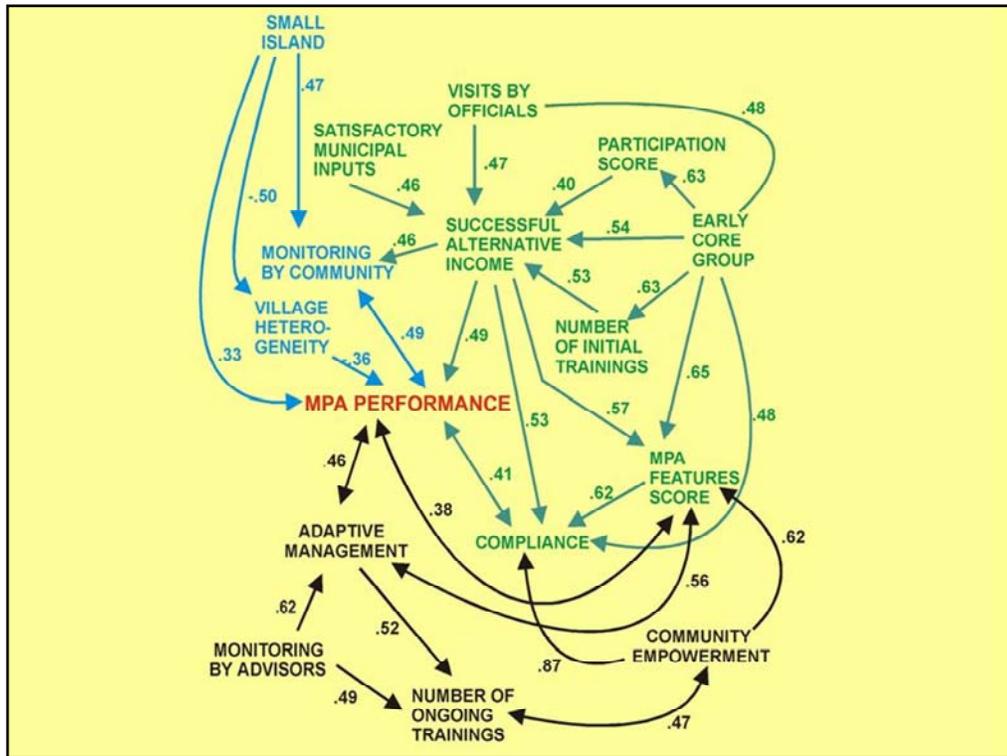
17



# Social Cause and Effects Web



Quality of Life: Culture-specific norms of desired individual and social experience. It has both subjective and objective aspects and is often measured using both existing data and peoples' statements about their beliefs and values.



From Richard Pollnac, Presentation at Social Science workshop, Honolulu HI. Goal was to identify variables predicting success of Marine Protected Areas in the Philippines. MPA success was defined biologically in this case; the predictor variables were environmental, demographic, socioeconomic, cultural, and programmatic.

## Economic Concepts

- Economic value
- Jobs and income vs. benefits and costs
- Economic impact analysis

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Economic Value is broader than cash flow, revenues or profits. Some actions that are profitable do not always have an overall net economic value to society, e.g. taking Native American Pottery from a site. Some actions that are not profitable may have net economic value to society, e.g. protecting critical habitat for an endangered species at the expense of livestock grazing.

There is a difference between Economic Impacts (e.g. jobs, labor income) and Benefit-Cost analysis. Benefit Cost Analysis measures the economic value to the consumer and producers as the consumer and producer surplus or Net WTP.

The Snake River RMP is an example of where the CVM was used as the analytical technique rather than using an I/O approach.

The oil & gas development south of Pinedale is a good example of how an I/O model is used to quantify the jobs and income generated by this activity.

Reductions in grazing permits in the Green Mountain common allotment is an example of how I/O and CVM could be used together. This example illustrates how the estimated loss in income and jobs associated with a decline in grazing could be balanced against an improvement in wildlife habitat, improvement in riparian areas, maintaining open spaces along historical trails and an improvement in the health of the range.

## Economic Value

- A resource has economic value if:
  - Scarce
  - Provides enjoyment and satisfaction.
- No actual payment is required.
  - Hence economic value broader than price, cash flow, revenues, taxes, etc.
- Economic value is measured by the maximum a user would pay if payment is required (willingness to pay - WTP).

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A Resource has economic value to some people (does not have to be to all) if it meets two conditions:

- It is scarce
- It provides at least some people with enjoyment and satisfaction

No payment is necessarily required for the resource to have economic value, so economic value may be broader than prices or cash flow, revenues or taxes. Absence of price does not mean absence of value!

The measure of economic value is the maximum amount a person would pay rather than do without.

## Economic Impact Analysis

- Economic view of local income/employment.
- Focuses on local income (wages, profits) & employment changes.
- Reflects direct spending of management action (leasing, visitor use) and indirect or multiplier effects.
- From national viewpoint gains (losses) in one county offset by losses (gains) in other counties / states - transfer of economic activity.

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Wildlife Viewers or Logging expenditures are costs to the national economy but create positive economic effects locally. However, the initial visitor spending or direct logging jobs create a multiplier or ripple effect throughout the local economy. The direct spending or initial jobs create demand for inputs in other related industries. These industries have to buy more inputs from other industries as well. These ripple effects are called **INDIRECT EFFECTS**. The **TOTAL EFFECT** on the economy is the sum of Direct and Indirect Effects.

A Multiplier is= Total Effect divided by Direct Effect. A Multiplier is usually 1.2 to 2.0 in most rural areas that BLM RMP's are completed for. IMPLAN Input-Output model is frequently used to measure the Multiplier effects. Job gains or lost in one local area are not national benefits or costs but merely transfers.

Intermountain Power Plant locational example in Utah illustrates this point: Hanksville vs Delta/Lyndal. The same number of jobs would be created with either location. In this example, society did not have to give up clean air at the National Park to have Electricity. The location of the plant could be moved to another location away from National Park and there would be no net difference in jobs to Utah. So from a state or national accounting stance, the number of jobs would be the same; they would transfer from one location to another.

## Net Economic Value & Benefit Cost Analysis (BCA)

- Focuses on what the user (visitor, consumers, producers) would pay for resource.
- Benefits to users (consumer and producer surplus).
- Costs are spending and opportunity costs.
- Economic efficiency goal is to maximize net benefits (TB-TC).
- Takes a national perspective.

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TB = Total Benefits

TC = Total Costs

Benefit Cost Analysis (BCA) can determine:

- Whether the benefits are greater than the costs, and
- Which management action (alternative) gives the greatest net benefits, i.e. benefits in excess of costs.

Example on Flip Chart

Timber sale example: \$100,000 Total Revenue- \$90,000 Total Costs

= \$10,000 Producer Surplus

Wildlife viewing example: \$50,000 in Total Benefits- \$10,000 Total Costs

= \$40,000 in Consumer Surplus

If these two mgmt options were mutually exclusive, then ASK:

Q: Which one has highest net economic value? (Wildlife: \$40,000)

Q Which has highest economic impact? (Timber: \$90,000)

## How Do We Measure the Economic Values of Multiple Use Outputs in BCA?

- Multiple Use Commodities sold in competitive auctions, the price is a measure of value for one more unit.
- Some Multiple Use Commodities (AUMs) sold by BLM at below market prices. How do we determine the economic value?
- Recreation, water quality, and wilderness are non market goods. How do we determine their value to users and the nation?

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## Measuring Consumer and Producer Values

- Consumer / Visitor max WTP minus the actual cost of use/travel (consumer surplus).
- Producer / Rancher max WTP minus actual operation costs (total revenue minus total cost or producer surplus).
- Using WTP ensures consistency in how market and non-market benefits are conceptually measured.

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## How Economic Surplus Arises on BLM Lands

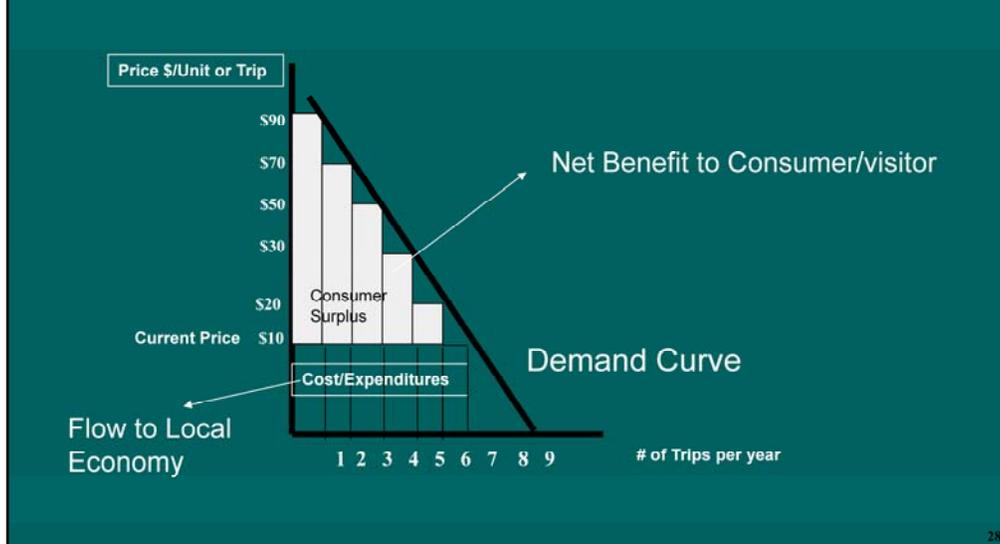
- Recreation Value to Visitor \$10
- BLM Entrance Fee = \$5
- Consumer Surplus = \$5
  
- Value per AUM to rancher \$10 (FMV)
- BLM Fee = \$1.79
- Producer Surplus = \$8.21

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**Recreation example of consumer surplus:** If the most a person would pay to visit a particular recreation site near his residence is \$10; and the administratively determined entrance fee is \$5, then there is \$5 of consumer surplus left over. Where is the consumer surplus? It is real income to visitor in their wallet.

**Grazing example of consumer surplus:** The same concept applies to public land grazing. If the Fair Market Value of grazing on public lands for ranchers (or the maximum willingness to pay (WTP) to graze on public lands is \$10; and the administratively set grazing fee is \$1.79, then the rancher realizes a producer surplus of \$8.21 of higher income. This is why ranchers fight BLM and Forest Service grazing cuts. Would they really fight grazing reductions if an AUM was only valued at \$1.79?

## Demand Curve and Consumer Surplus



The Demand Curve illustrates the relationship between the maximum amount a visitor would pay and the amount they actually have to pay, with the difference reflecting their net benefits or consumer surplus.

This diagram illustrates that expenditures are costs to the consumer and visitor, and reduce consumer surplus, but these expenditures are flows to the local economy for economic impact analysis.

We will get into how to empirically measure consumer surplus in Step 6 of the planning process.

## Economic Impact Analysis and Benefit-Cost Analysis

### Economic Impact Analysis:

- Focuses on local (county or state) income (wages, profits) and employment changes.
- Reflects direct spending of resource mgmt action (e.g., leasing, visitor use) and indirect or multiplier effects.
- From a national viewpoint, gains (losses) in one county offset by losses (gains) in other counties or states - it's a transfer of economic activity.

### Benefit Cost Analysis:

- Focuses on what the user (visitor, consumers, producers) would pay for resource.
- Benefits to users (consumer and producer surplus).
- Costs are spending and opportunity costs.
- Economic efficiency goal is to maximize net benefits (TB-TC).
- Takes a national perspective.

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Depending on the RMP issues a field office might do either An Economic Impact Analysis OR a Benefit Cost Analysis.

In some cases, BOTH types of economic analyses might be appropriate to provide a more complete picture of the effects of BLM RMP alternatives on locals and non-locals.

An example of an RMP doing both Economic Impact and Economic Valuation is the King Range RMP in Northern California.

The Snake River RMP in Teton County, WY just did valuation, as economic impact analysis was not really relevant.

It is worth keeping in mind that BLM land is Federal land, the management of which is paid for by taxpayers from across the country.

## Planning Criteria Overview

### Required by BLM planning regulations (1610.4-2).

- Guide plan development .
- Streamline plan focus.
- Establish standards, analytical techniques, and measures to be used.
- Identify factors and data to consider in making decisions.
- Shall be made available for public comment.
- May be changed as the planning progresses.
- Use as an opportunity to share information with the public and get feedback early on.

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In the past, planning criteria often simply stated that the plan would be consistent with applicable law and agency guidance. Today, we recommend that you recognize the opportunities of planning criteria

Clearly define sideboards of the plan for the public and the planning team. Define the analytical methods to be used in the planning process – what will and what won't be used. Gives the public an opportunity to see where we're headed and to provide input.

Planning criteria may address social/economic activities. You may want to:

- establish social/economic thresholds, analytical techniques, and measure (indicators);
- identify social/economic factors (indicators) and economic data to consider in making decisions;
- make social/economic data, analyses, reports available for public review; and
- share strategies for analyses and share data with public, industry, and agencies to get early feedback.

## Examples of Social Planning Criteria

The RMP will consider and integrate local, statewide and national interests. (Dillon Draft RMP/EIS, 2004)



The lifestyles of area residents, including the activities of grazing and hunting, will be recognized in the Monument Plan. (Grand Staircase-Escalante National Monument, Draft RMP/EIS, 1998)



## More Examples of Social Planning Criteria

- Recognize the uniqueness of the west slope of the King Range as a primitive backcountry coastline. Decisions will compliment or enhance these values. (King Range National Conservation Area, Proposed RMP/FEIS, 2004)
- The lifestyles and concerns of area residents, including ranching and grazing, will be recognized in the plan. (Upper Missouri River Breaks National Monument, Draft RMP/EIS, 2005)

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## More Examples of Economic Planning Criteria

- Management actions will be evaluated for socioeconomic impacts by using the “Economic Profile System” and other tools such as IMPLAN. (Yuma Draft RMP/EIS, 12/06)
- The socioeconomic impacts of the alternatives will be considered. (Price Field Office RMP, 7/2004)
- Consider the relative significance of public land products, services, and uses to local economies. (Socorro Draft RMP/EIS, 4/2007)

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## More Examples of Social Planning Criteria

YFO will incorporate the a process to detect emerging issues affecting public land by engaging local citizens in the land use planning process. (Yuma Field Office Draft RMP/EIS, 12/06)

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## More Examples of Economic Planning Criteria

- Consider local employment and labor income tied to BLM activities.
- Consider government revenues and costs tied to BLM activities.
- Consider costs to society from degraded land and water tied to BLM activities.

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# Collect Data

## Planning Step 3

In Step 1 & 2 we focused on the social and economic analyses tasks that relate to identifying planning issues and developing planning criteria. We quickly reviewed planning issues, planning criteria, and preparation plans to establish a basis for addressing :

- Public participation strategies for identifying
- Social and economic issues, and
- Social and economic criteria

Step 3 of the planning process involves inventory data. The corresponding social and economic tasks involve:

- identifying resource data from the other resource programs that will be use in the social and economic analysis, and
- assembling appropriate social and economic baseline data

## Step 3 Objectives

- Define social and economic study areas.
- Assemble data to address planning issues and set the stage for assessing impacts.

## Social Science Activities in Land Use Planning

Planning Steps	Social Science Activities
Steps 1 & 2: Identify and Develop Planning Criteria	Identify publics and strategies to reach them Identify social and economic issues Identify social and economic planning criteria
Step 3: Inventory Data	Identify inventory method Collect necessary social and economic (S/E) data
Step 4: Analyze Management Situation	Conduct S/E assessment of continuing current management. Document assessment methods appendix or technical report
Step 5: Formulate Alternatives	Identify S/E opportunities and constraints to formulate alternatives
Step 6: Estimate Effects of Alternatives	Identify analysis methods Analyze S/E effects of alternatives Document analysis methods in an appendix/tech report Assess mitigation opportunities
Step 7 & 8: Identify Preferred Alternative and finalize Plan	Identify potential S/E factors to help select the preferred alternative
Step 9: Monitor/evaluate	Track S/E indicators

The process should be to define the issue and then determine what model will be used to analyze the situation and then identify the data needs to run the model. This involves going from Steps 1 and 2 to Step 6 and then steps 3 and 4.

## Tools in the Toolbox

### Planning Tools

- Data collection by each program and resource



### Economic / Social Tools

- Data for each program, resource for S/E analysis
- EPS
- EPSC
- Surveys
- Semi-structured interviews
- Focus groups
- Informal interview
- Participant observations

## Collect Data (not dust)

- Assemble existing and collect new data necessary to address planning issues and describe study area.
- Main data needs and collection methods should be described in the Preparation Plan.
- Notify other resource specialists (asap) regarding data needed **from them** as necessary data inputs to social and economic analyses.

Most data for land use plans are generally assembled from existing sources. New data collection is limited to what is needed to resolve the planning issues (BLM Planning Handbook H-1601-1)

Think about what data is needed to conduct the social and economic impact analysis. Also think about what data is needed to understand the context of the social and economic impact indicators. Cooperators can be helpful providing information at this stage—put them to work!

The Butte RMP Economic Data Request Form, copy included in this unit, provides examples of the types of data that might be requested of other BLM resource specialists to be used in the economic analysis of alternatives.

## Data Sources

- Economic Profile System (EPS)
- Regional Economic Information System (REIS)
- U.S. Census Bureau and related state agencies (Community and Regional Affairs; Labor; Fish and Game)
- EISs and assessments from other agencies
- New analyses of existing data

Census is powerful but can be deceptive and highly time-consuming. There's usually a state agency that analyzes census data and also collects some of its own. They are often helpful and can perform custom analyses—although maybe for a price. Some states have a state demographer, who's a great contact and may put out an annual state-level report. State employees can help figure out what data you need as well as how to retrieve and display it. Census bureau employees do lots of outreach too, presenting 3-hour workshops that help make people familiar with the data bases and how to use them. Highly recommended!

EISs: Try to become familiar with all of the current EISs on projects and plans in your region. Very valuable sources of existing information.

## More Data Sources

- Tribal government/corporation plans
- County Comprehensive/Economic Development Plans
- Community plans and vision statements
- Chamber of commerce/convention bureau publications and databases
- Public comments received during scoping

Local and regional plans especially! Your key contacts (remember your public participation plan) may know of information that you don't. There's nothing worse than laboriously compiling a data set and then realizing some other agency already did it for one of their plans. In Step 6, we will learn how to use these plans as one technique of social impact assessment.

## Still More Data Sources

- National and State hunter, angler and wildlife viewing surveys; SCORP
- Previous assessments, published & unpublished reports related to study area
- Local and regional universities (CESU)
- Focused literature reviews and meta-analyses

Journals can be a bit intimidating because there are so many, and information contained can be very specific. However, the crux of this whole endeavor is to be able to measure and predict human behavior, isn't it? So it helps to be familiar with past studies of human and institutional behavior in similar situations. Some good journals to try: Society and Natural Resources, Human Dimensions of Wildlife; Environment and Behavior, Human Organization, Rural Sociology, Journal of Leisure Research, Leisure Sciences, and many other recreation, sociology, psychology, anthropology, and related disciplines. The Forest Service has an excellent report series that contains many social reports.

In your Prep Plan, have a local university prepare a targeted literature review.

CESU's – See appendix

## Social and Economic Indicators in Theory

- An integrated set of social, economic and ecological measures, collected over time and primarily derived from available data sources, grounded in theory and useful to ecosystem management and decision-making (Force, Fosdeck and Machlis 1995, for ICBEMP)

You can't monitor everything, so just pick a few variables or trends to track over time. They may be some of the same variables used as dependent variables in your impact analysis.

Report submitted to ICBEMP under Order # 43-0E00-5-5269 by University of Idaho.

## Social and Economic Indicators in Practice

- Follow same principles as any other indicators.
- Will be tied to issues and impacts.
- May require primary research as well as secondary.
- There will likely be agency constraints on social and economic monitoring.
- Works best when *monitored* and *evaluated* with agency partners (not internal process).

Note that this discussion of indicators can be applied to previous planning steps as well, such as collection of data.

Indicators are the variables that will be monitored.

Other agencies, interest groups and stakeholders may be willing to help—they love making sure we do what we said we would!

A collaborative approach to monitoring provides manpower you may not have in-house and don't want to contract out.

Collaboration will build social capital and set you up nicely for the next plan or amendment or project-level analysis.

## Characteristics of Good Indicators

- They tell us a lot about something with a single measure.
- Typically based on broader goals or dimensions.
- Measurable, reliable, cost-effective, significant, relevant, sensitive, efficient, responsive.
- Brainstorming exercise: quality of life indicators – what are good indicators and measures? Which of these does (should) the BLM influence?

## Inputs for Development of Indicators

- Law and policy
- Biological studies
- Public involvement/cooperating agencies
- Planning issues and stakeholder concerns
- Readily available data (EPS)
- Primary research

## Automated Economic Databases

- Databases
  - Economic Profile System (EPS)
  - Regional Economic Information System (REIS)
- Why use them?
  - Determine the relative importance of the economic sectors.
  - Determine whether or not population growth is occurring.
  - Examine income and employment by sector.

EPS and EPSC are introduced in this section to indicate where and how economic profiles can be generated automatically in response to Planning Step 3.

# Economic Profile System

A partnership between the Bureau of Land Management and the Sonoran Institute

**Sonoran Institute:**

<http://www.sonoran.org/>



**Headwaters Economics:**

<http://www.headwaterseconomics.org/>

Ray Rasker: [ray@headwaterseconomics.org](mailto:ray@headwaterseconomics.org)



**BLM:**

Roy L. Allen: [roy\\_allen@blm.gov](mailto:roy_allen@blm.gov)

## Economic Profile System (cont)

- Automated Development of Economic Profiles (EPS)
  - Washington Office Memo IM 2003-169 (Use of the Economic Profile System in Planning and Collaboration)
    - Use EPS to develop Economic Profiles for the AMS and Chapter 3 of the RMP / EIS.
    - Requires community workshop to be held during scoping to discuss economic conditions, trends and strategies.

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

Much of the data provided by EPS can be used for the Analysis of Management Situation and Chapter 3 of the RMP/EIS.

The EPS2002 system is now available for the entire country. EPS and EPSC simplify the social and economic research required for land use planning by gathering and presenting, in a variety of useful formats, data from multiple federal databases. These information tools were created to improve planning and more efficiently accomplish the time-consuming task of gathering important social and economic data. EPSC uses the Decennial Census to provide in-depth community-level profiles.

EPS draws upon a variety of governmental databases to produce thorough and multi-faceted profiles of economic and demographic changes over the past 30 years.

## Economic Profile System (cont)

### What does it do?

**EPS** automatically produces profiles containing selected demographic and economic data for U.S., States, Counties and Aggregated multiple counties.

**EPSC** automatically produces profiles containing selected demographic and economic data for U.S., Regions, Divisions, States, Counties, County Subdivisions, Places (Towns), Indian Reservations and Congressional Districts .

**For whom was it designed?** Designed to be used by both economists and non-economists.

## Use of EPS and EPSC

**NOT a replacement for  
impact analysis —  
a supplement.**

**Note:**

**Impact analysis: Economic impact from various management alternatives.**

**Economic profile: Long-term trends in the local and the existing condition.**

Data sources for the economic profile system includes the Census Data, Regional Economic Information System (REIS), Bureau of Labor Statistics (BLS), and County Business Patterns (CBP).

The Sonoran Institute has prepared a paper entitled “What Should Be in an RMP: Using EPS in BLM Planning”. A copy of this paper is included in the \*Appendix X of the student notebook. This paper describes the types of data and different data bases used by EPS and EPSC. Ray Rasker, of the Sonoran Institute, also provides an example of how aggregation of data over several counties is possible. For example, the Sonoran Institute recently ran an aggregation for over 100 counties in the Inland Northwest. To see the report go to: [http://www.sonoran.org/programs/si\\_se\\_res\\_inland\\_nw.html](http://www.sonoran.org/programs/si_se_res_inland_nw.html)

**EPS Pro** is a new system that links over a 1,500 demographic and economic concepts (e.g., education levels and average earnings per job) to 92,000 possible geographies (ranging from towns to counties to states) in North America using ArcMap. This system enables on-the-fly analysis of socioeconomic conditions at a variety of geographic scales; simultaneous comparisons of physical, demographic and economic variables; identification of peer communities and assessment of performance benchmarks; creation of print-ready, 50-page socioeconomic profiles.

**EPS Pro** is used by the Sonoran Institute to facilitate research on emerging trends in conservation and rural development; engage community partners in discussion on comparative advantage and land use planning; and help public land management agencies with land management plans. A description of EPS Pro guidance is available in the Guidance section.

EPS and EPSC have a limited amount of social data but EPSC does have more information related to social and demographic issues than does EPS. EPS automatically produces a 31 page profile of the county or aggregated area and an additional 7 pages describing data sources, methods, and glossary.

## EPS and REIS Comparison

### EPS

- Available free of charge.
- Includes data for communities and counties in the U.S.
- Easy to use.
- Updated annually through BLM funding.
- Automatically produces a 37 page county profile and 20 page community profile.
- Automatically adjusts for inflation.
- Automated procedure to resolve missing data.
- Provides an unbiased database.
- Allows a user to define a multi-county areas.

### REIS

- Available free of charge.
- Includes data for all U.S. counties.
- Easy to use.
- Bureau of Economic Analysis updates annually.
- User can extract historical data by selected years.
- Data can be exported to a spreadsheet and customized.
- Provides a detailed sector breakdown.
- Provides an unbiased database.
- Easy to use (Excel skills).
- Provides an unbiased database.

## EPS Profile Data

- **Census**
  - Population
  - County Business Patterns
- **Bureau of Economic Analysis**
  - Employment by industry
  - Income by industry
  - Earnings
  - Non-Labor Income (Transfer Payments, D.I.R.)
  - Farm
  - Commute Data
- **Bureau of Labor Statistics**
  - Unemployment

## EPSC Profile Data

- Population by age and sex
- Population by race
- Housing booms and vacancy
- Housing affordability
- Employment by industry
- Commuting time
- In-migration
- Income distribution (individuals and households)
- Sources of income
- Education
- Workforce
- Poverty by age and sex
- Poverty by race and family type
- Language and rural / urban breakout

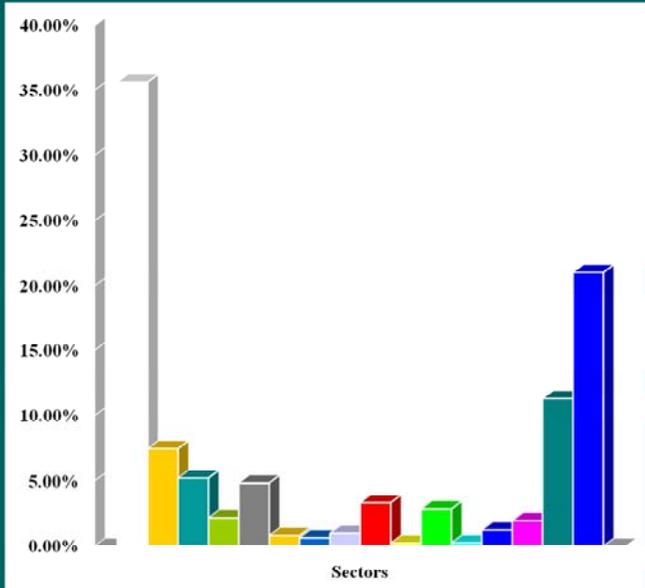
## Interpretation of Data

### *Sample Questions*

- How important is ranching to Owyhee County?
- Do you think the BLM manager has the information at hand to quantify the importance of the various economic sectors within the field office's boundaries?

The data shown in the following three slides indicates the relative importance of the economic sectors in Owyhee County, ID, Sublette County, WY, and Ada County, ID.

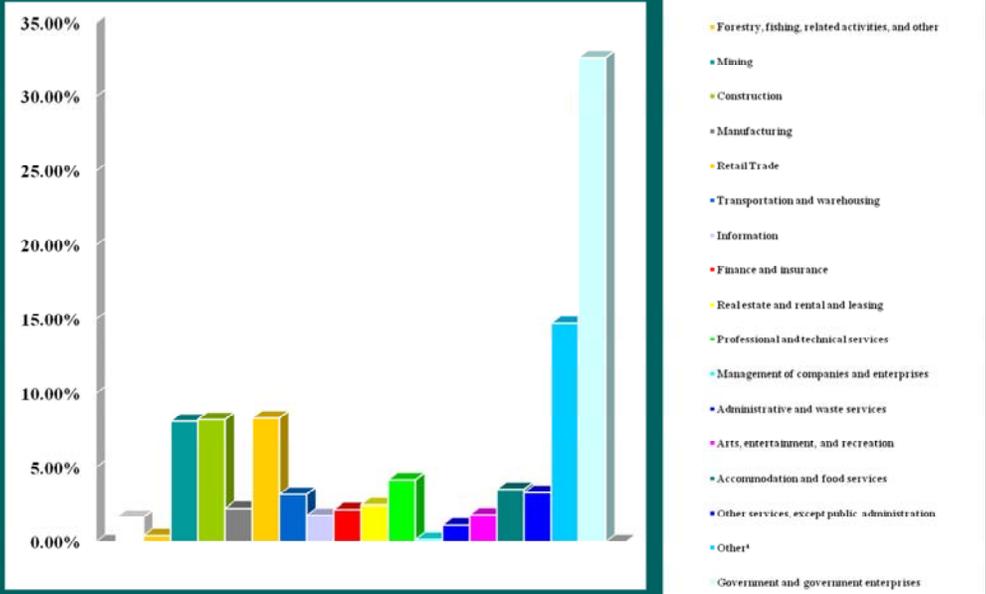
# Owyhee County (2005)



- Form earnings
- Construction
- Manufacturing
- Wholesale trade
- Retail Trade
- Information
- Finance and insurance
- Real estate and rental and leasing
- Administrative and waste services
- Educational services
- Health care and social assistance
- Arts entertainment
- Accommodation and food services and recreation
- Other services except public administration
- Other\*
- Government and government enterprises

\* Estimated Forestry fishing related activities and other, Mining, Utilities, Nondurable goods manufacturing, Transportation and warehousing, Professional and technical services, Management of companies and enterprises using the residual of Private Earnings.

# Fremont County (2005)



\* Estimated Utilities, Wholesale Trade, Educational services, Health care and social assistance using the residual of Private Earnings.

## Reasons for Overestimation of Economic Importance

### Aspects of dominance

- Economic (contribution to economy)
- Cultural (shared definitions and stories)
- Functional (biggest effect if disappeared)
- Physiognomic (most space or biomass)
- Aspect (most visible and prominent)

From Jacob, et. al. (2004)

In cases where economic importance of an industry to a county is overestimated, there are several other possible explanations as well:

Maybe the dependence is on BLM lands rather than county-wide;

Maybe the economic dependency is true for a community rather than the entire county; and

Maybe the county was historically dependent on the industry but is no longer;

The industry may not be significant economically, but is very significant from a socio-cultural perspective (see above)

## Data Not in EPS



- **Recreation use patterns (local and non local users)**
  - Consumptive user days
    - Angler Days
    - Hunter Days
  - **Non-consumptive user days**
    - Wildlife viewing
    - Hiking
    - Camping
- **Detailed industry sector breakdown**
  - Livestock grazing
  - Bicycle shops
  - Guide services

Recreation is becoming more important in the west and EPS and EPSC do not provide data that specifically differentiates between consumptive and non-consumptive recreation.

It should be noted that EPS and EPSC do not provide a detailed sectoral breakdown that may be needed to analyze a particular activity of interest. For example, it does not have the detail necessary to analyze and track the impacts associated with guided float trips.

In **Step 6** we'll describe sources or methods for obtaining these data. Remember that the purpose of these data is to complement the EPS data to expand county or community profiles.

There are also many social variables that are not included in EPS county or community profiles—we'll discuss how to deal with these later.

## More Data Not in EPS

- History, political and social resources (local/regional plans), culture and values, infrastructure, amenities, residents' relationships with the environment – especially RMP area.
- Level of detail depends on availability of information, number of communities, likely magnitude and significance of impacts.

Depending on plan and attributes of planning area, may need to focus on groups prone to environmental justice impacts. Attitudes and beliefs of local and regional residents can be important to consider. These can be gleaned from local vision statements and other planning documents.

Relationships can place attachments (sense of place)

## Collecting New Social Data



- Interviews
- Focus groups
- Surveys

Amy Gough interviewing crew on a Hawaii-based longline fishing boat

## Interviews

- Key informants can explain meanings of statements, changes in land use or allocation, community goals.
- Can be done easily in a field setting.
- Can be used to describe social practices and tap into local knowledge.
- Can help to identify issues and develop hypotheses.



Clarifying attributes not well understood

- Describing attributes of good mountain bike trails.

Identifying the composition of social groups and networks

- Ethnicity and travel patterns of mushroom gathering groups

Describing social practices

- Identifying reasons for ranchers to make grazing improvements

Translating distinctive (cultural) understandings

- Asking Indian elders how and why to mitigate damage to edible roots from pipeline construction

Describing strategies

- How commercial fishers locate schools of fish

## Focus Groups

- Can be used to understand how a range of individuals view an object in terms of its attributes (such as how people define key terms and concepts such as sustainability, ecosystem, or BLM).
- Can be used to flesh out issues or test hypotheses developed through interviews.
- Main benefit is ability to observe the interaction and group evolution.

Very cool; people get enamored and sometimes go overboard after first one; don't generalize too much!

Main benefit is seeing how people interact and how definition of the concept emerges through discussion. Can explore how a wide range of individuals interact with each other. Can structure group to represent stakeholders on a given issue.

Great job for a contractor. Consider contracting out a set and just observing and/or being a participant yourself.

## New Grazing Regulations Final Rule July 12, 2006

“These new regulations are aimed at promoting more effective and efficient management of public lands grazing, which is a vital part of the history, economy, and social identity of Western rural communities.”



The preferred alternative adds a new provision requiring BLM to analyze and, if appropriate, document the relevant social, economic, and cultural effects of a proposed action before changing grazing preference...to ensure a consistent approach to the decision-making process.

## Focus Groups in SIA

- BLM used focus groups to assess impacts to grazing permittees, recreation uses and values, environmental and conservation values.
- Salmon, ID; Ontario, OR, Albuquerque, NM
- Results used to describe changes to community and institutional structures; individuals and families; community resources.

See handout

## Surveys

- Useful in determining distribution of well understood attributes (resource uses, residence, age).
- Allows us to make inferences about populations of interest.
- In a policy arena, survey results may be better accepted than qualitative findings.
- Nice complement to interviews and focus groups.
- Can measure non-market economic values.

As we all know, Office of Management and Budget approval must be obtained to conduct surveys and other information collections, under the Paperwork Reduction Act. Potential appears to be decreasing for 3-year blanket approval with minimal review of each new survey.

Same survey can be used to collect economic information too.

## **Dillon RMP**

### **Information Sources for the SIA**

- Forest Service Social Assessment on adjacent forests
- Interviews with fellow ID team members
- Interviews with local, regional residents
- Scoping Information
- Visits with townspeople
- Visiting the FO area
- Information from cooperators

## Interview Goals

- What is important to the local, regional populations.
- How does the Dillon FO affect them personally (use/value)?
- Attitudes toward issues (and why).
- How issue resolution would affect them (and why).
- Collect by affected group.
- Wanted in-depth information – why as well as what (not a substitute for a survey).

## Interview Methods

- Two interviewers
- Forty-five face-to-face interviews, one to two hours in length
- Interview guide
- Three to five interviews per affected group; more interviews for more diverse groups.
- County rep attended some interviews.
- Time, cost and OMB Clearance.

## Who We Talked To:

- All county commissioners
- All RAC members
- Ranchers by place
- Community residents by place
- Recreationists (motorized, non-motorized hunters)
- Outfitters
- Resource use advocates
- Resource protection advocates
- Local government representatives

## Data Analysis

- Interview response form
- Response data base
- Actually cut and paste
- Content analyses

## What the Interviews Told Us

- The importance of recreation quality
- Support for some road closures for wildlife habitat
- Preference for active wildfire management
- Clarification of concerns regarding the Big Sheep Creek Backcountry Byway
- Mostly how people felt about the issues and issue resolution

## What Worked

- Got some thoughtful suggestions for some issues.
- Most people very interested in being interviewed (only one refusal).
- Talked to a good cross section of people.
- Ability to clarify what was important for the quality of life for different groups.
- Used discussions to verify information from other sources.

## What Didn't Work

- Ended up with attitudes more than how respondents thought they would be affected.
- On some issues, people tended to respond along “party lines”; may not be worth asking these questions.
- Interview guide too long.

## Lessons Learned

- Focus on issues where social information would make the most difference (i.e., be useful to management for decision-making or mitigation).
- Don't ask everyone everything; use cooperators to gather general information.
- Consider a two-tiered approach:
  - First collect general information.
  - Follow up with information to help with impact analysis.
- Interview is definitely worth doing.

## Data Collection for the King Range RMP / EIS

- Forty face-to-face, one to two hour interviews.
- Done during scoping.
- Used “network” sampling.
- Goals: Identify the range of stakeholders in the area.
- Identify their relationships to and values toward public lands.
- Identify their issues.

## Interview Goals—King Range

- What is going on in your area? Issues, concerns.
- Personal relationship to public lands (use / value).
- Collect information by potentially affected group.
- Attitudes toward issues and how issue resolution might affect them personally (and why).
- In-depth information—why as well as what (not a substitute for a survey).

## Upper Missouri River Breaks Nat'l Monument – Information Used

- Heavy use of scoping information (plan drew local, national, and international interest).
- Cooperators who attended all ID team meetings represented different interests: county commissioners, FWS, reservation representatives. Follow-up discussions with documentation.
- Personal knowledge of the area by social analyst and other team members.
- Management considered environment too volatile for survey, etc.



## Tips and Tricks

- Tell stories rather than just present a mass of information.
- Collaboration with (or at least review by) community residents and leaders will bring it home—use quotes for illustration .
- Make sure groundwork is laid for assessing effects.

## Key Points

- Focus data collection on information needed to address planning issues.
- Talk to people every chance you get and talk to a variety of people.
- Compare data from different sources.

# Analyze Management Situation

## Planning Step 4

1

In Steps 1 & 2 we focused on the social and economic analyses tasks that relate to identifying planning issues and developing planning criteria. We quickly reviewed planning issues, planning criteria, and preparation plans to establish a basis for addressing public participation, strategies for identifying social and economic issues, and social and economic criteria. Step 3 of the planning process involves gathering data.

Step 4 analyzes the management situation. The corresponding social and economic tasks involves conducting social and economic assessments of current management, and identifying key social and economic indicators.

## Step 4 Objectives

- Describe current social and economic variables and systems in study areas.
- Analyze Management Situation.
  - Identify trends in social & economic system.
  - Identify supply & demand of resources in planning area.
  - Identify dependency of communities on planning area.
  - Begin to identify impacts of continuing current management as a baseline1.

2

Current social & economic variables & systems can be described using the Economic Profile System (EPS) and by compiling community profiles to understand social systems.

## Social Science Activities in Land Use Planning

Planning Steps	Social Science Activities
Steps 1 & 2: Identify and Develop Planning Criteria	<ul style="list-style-type: none"> <li>•Identify publics and strategies to reach them</li> <li>•Identify social and economic issues</li> <li>•Identify social and economic planning criteria</li> </ul>
Step 3: Inventory Data	<ul style="list-style-type: none"> <li>•Identify inventory method</li> <li>•Collect necessary social and economic (S/E) data</li> </ul>
Step 4: Analyze Management Situation	<ul style="list-style-type: none"> <li>•Conduct S/E assessment of continuing current management.</li> <li>•Document assessment methods appendix or technical report</li> </ul>
Step 5: Formulate Alternatives	<ul style="list-style-type: none"> <li>•Identify S/E opportunities and constraints to formulate alternatives</li> </ul>
Step 6: Estimate Effects of Alternatives	<ul style="list-style-type: none"> <li>•Identify analysis methods</li> <li>•Analyze S/E effects of alternatives</li> <li>•Document analysis methods in an appendix/tech report</li> <li>•Assess mitigation opportunities</li> </ul>
Step 7, 8: Identify Preferred Alternative and finalize Plan	<ul style="list-style-type: none"> <li>•Identify potential S/E factors to help select the preferred alternative</li> </ul>
Step 9: Monitor/evaluate	<ul style="list-style-type: none"> <li>•Track S/E indicators</li> </ul>

3

## Tools in the Toolbox

### Planning Tools



- AMS for each program & resource

### Economic/Social Tools



- AMS for S / E sections
- S/E Strategies Workshop



## Analysis of the Management Situation (AMS)

- Contains essential information about resource conditions, uses, management activities, and cause-effect relationships.
- Provides basis for No-Action Alternative, Affected Environment.
- Generally a “living document,” in a loose-leaf notebook, that can be continually updated.

5

Social and Economic sections of the Draft Butte AMS provide a sample.

**See Butte AMS section in the Reference Section of the Notebook for Step 3/4**

## AMS (cont)

### Includes:

- Description of current management situation
- Condition and trend of ecosystem health and social & economic status
- Management adequacy & opportunities
- Consistency with other plans
- Mandates and authorities

6

**Social and Economic Status** – Summarize the overall ability of the planning area to meet the demands, needs, or values of the local, regional, and national publics.

**Management Adequacy** - Based on the current condition and trends of the resources and demands on those resources, analyze the ability of current management direction to achieve desired conditions and address resources and demands for use of the resources. Discuss field office capability in terms of staff, annual budget, summary of workload ranked by subactivity and/or program elements.

**Management Opportunities** – Discuss options for changed management where current management does not or may not in the future adequately manage resources and uses. Discuss options for partners, communities, other federal, state, local, or tribal agencies to enhance or contribute to management capacity. If scoping has occurred, the management opportunities should begin to respond to issues identified through scoping.

## Turning Social Data into Useable Social Information

### Do:

- Be parsimonious.
- Identify and apply a set of indicators throughout the process.
- Relate social issues and impacts to other resource area discussions.
- Tell stories using the data.
- Use quotes and photos liberally.

### Don't:

- Present data without saying why it's important.
- Present huge amounts of information just because it's available.
- Have disconnects among issues, affected environment, impacts, monitoring.
- Think that text can do it all.

7

OK, you've collected all of this social information; now how do you know which of it to present—and how?

One response we've seen a lot over the years is to throw in everything. And then say "We had 200 pages on communities—how can you be critical"? Quantities of data don't necessarily constitute useable information. It's better to have fewer data but explain them well and say what they mean and why they're important, than to have table after table of demographic data that go way overboard in describing social conditions and trends.

Quotes are great to use as examples of peoples' attitudes, beliefs and values. They add color and grounding to a description of the social setting, or to a discussion of estimated impacts.

## Compiling Community Profiles Example

- For just a few relevant communities, describe individually.
- For many relevant communities, summarize and/or categorize (size, location, orientation to BLM lands, trade center, resiliency, economy).

***Will probably assess effects based on these categories too!***

- Remember: a community is not a homogeneous unit.

8

County-level information may characterize broad areas; finer distinctions may be made by summarizing communities within the counties. For example, 32 communities were described and assessed individually in the Tongass National Forest Plan; 200 communities were described and assessed in ICBEMP.

## Communities Near or Within the Togiak Planning Area

Community	Pop. 2000	Pop. 1980	% Native	# Households	# Commercial Fishing Permits
Dillingham	2,466	1,563	61%	884	269
Goodnews Bay	230	168	94%	71	42
Manokotak	399	294	95%	93	97
Platinum	41	55	93%	17	7
Quinhagak	555	412	97%	137	95
Togiak	809	470	93%	202	249
Twin Hills	69	70	94%	24	15

9

Here's one example of how a set of communities was summarized, from Togiak NWR plan

What else would you want to know about them to develop a little better understanding?

What other communities might be important to consider in the plan?

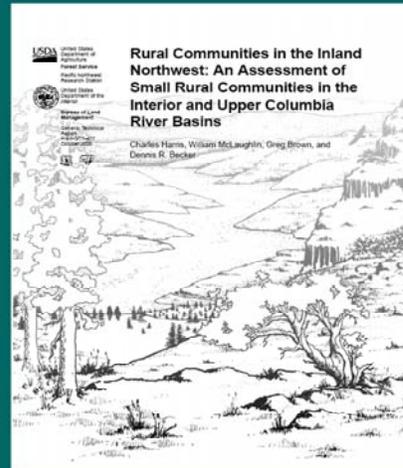
## Village of Togiak



10

## Case Study: Assessing Your Community

- University of Idaho study of 200 rural communities for ICBEMP
- Focus groups with stratified interests in each community
- Completed workbook on community character before workshops.
- Workbook sections illustrate components of community character and quality of life, plus resiliency.



11

See University of Idaho study in back of notebook.

ICBEMP = Interior Columbia Basin Ecosystem Management Project

Workbook questions

## Community Resiliency

- The ability of a community to either cause desired change or adapt successfully to it.
- Very similar to community vulnerability and community stability.
- Like many socioeconomic factors, can be both a dependent and an independent variable.
- Can address it without measuring it (impacts lower if community able to...).

12

In other words, resiliency can be affected by the outputs of an alternative but will also be a factor determining what those impacts will be.

## Measuring Community Resiliency

- Economic character and diversity; leadership; levels of social cohesiveness and social capital; in-town and area amenities; population size.
- Recent events and trends can indicate sources and levels of resiliency.
- Evidence of past success at dealing with change—capacity.

13

Examples from Lakeview RMP and Powder River Basin oil and gas FEIS

## Conjecturing about Resiliency



- What communities are you familiar with that you would hypothesize to be more resilient or less resilient? Why?
- How does the level of resiliency affect a community's ability to deal with impacts of BLM activities?

14

Answering these questions is one way to identify indicators of resiliency people use.

## Additional AMS Considerations

- Sustainable levels for each renewable resource
- Future demand for each resource
- Dependency of local region on BLM lands
- Effects of continuing existing management
  - Emphasize trends so reader will understand how conditions got to where they are today and where we think they're headed.

15

43 CFR 1610.4-4

Issues to consider:

- Is the issue related to increased recreation use and effects on other resources?
- Is the issue effects of energy developments on other resources?

Other items considered:

- Include planning issues identified in Scoping
- Unique characteristics of alternatives
- Public input and comments

## Current & Potential Supply of Each Resource

- Calculate sustainable supply of renewable resources (carrying capacity) or long term production of non-renewable resources at current rate of extraction.
  - What is sustained yield of these resources?
  - Is current livestock grazing, timber harvest greater than sustained yield?
- Regulations require identifying levels of management intensity that are economically viable using benefit-cost or cost effectiveness analysis.

16

1a. Relate the calculations of sustainable supply to individual multiple use resources, but also resource interaction.

1b. Example of resource interaction : Forage competition: livestock, wild horses and wildlife; AUM's for cattle must consider other uses.

2. Need to Know Sustained Yield or supply capability so as NOT to formulate Alternatives in excess of Sustainable supply. The RMP cannot promise more than the sustained yield.

3. BLM Planning Regulations Require that the particular level of supply of the resource be economic justifiable.

Just because possible to technically increase AUM's does not mean should include those AUM's, the Costs of providing those additional AUM's to BLM may exceed the benefits to the rancher or exceed the opportunity costs to other resource uses foregone.

## Future Demands for Relevant Resources

### Determine the direction of determinants of demand for resources affected by RMP:

- Future human population in demand area not just study area
- Future income in demand area
- Project future demand for each resource (e.g., recreation)
- Availability of substitutes for the resources
  - Other non-BLM sources of supply for that resource in the region and outside the region
  - Substitute resources that meet the same need (coal vs natural gas to meet electricity demand)

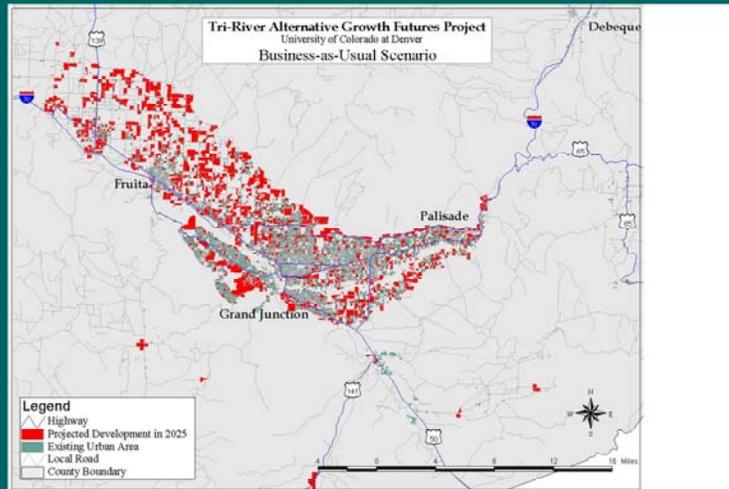
17

Must identify demand area where visitors come from and consumers of products live.

Recognize study areas do not often reflect the origins of the majority of visitor demand which come from large urban areas. The trends there are critical to estimating future demands for many BLM study area resources.

Also consider how people in areas that will be affected by the RMP directly or indirectly value these uses and opportunities in non-economic terms. Are some resources or opportunities unique in the region or special in some way? Do people and communities have life styles associated with these resources?

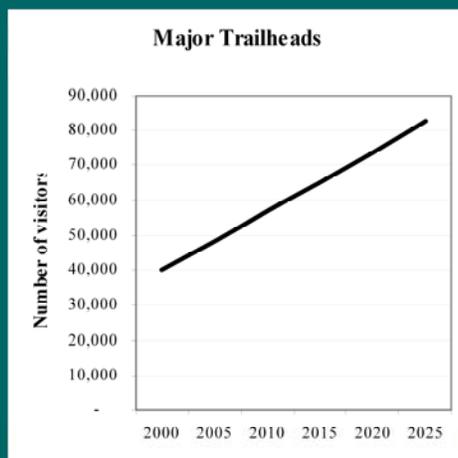
## Expanding Urban Boundaries of Mesa County: Projected Development & Population to 2025



Source: University of Colorado at Denver, American Farmland Trust, Governor's Smart Growth Fund

Illustrates the growth in human population that will have implications for the demand for recreation on adjacent and nearby public lands

## The effect is increased demand for recreation on public lands ... McInnis NCA (Colorado)



19

Illustration of linear demand projection that can be done using past data, multiple regression and future population and income projections (from US Census)

## Future Demands for Relevant Resources (cont)

### Look at demand forecasts for these resources:

- Industry estimates.
- Related agency estimates (USFS does an assessment of demand & supply for each resource as part of Resource Planning Act Assessment.
- If resource demand very localized might consider own trend analysis of demand.

20

RPA = Resources Planning Act Assessment completed for each multiple use resource. These are available from the Rocky Mountain Research Station of the U.S. Forest Service

Examples of multiple use resources with national demand and supply include oil, gas, timber and beef.

BLM's supply decisions will have little effect on prices of these resources.

Local demand for resources and resource uses include firewood, sand/gravel, upland gamebird hunting.

## Determining Dependency of Local Region on BLM Lands

- **How much of local supply of a resource is met by BLM lands in the planning area?**
  - Ex: Total 10,000 AUMs produced in region; 2,000 AUMs of that from BLM lands.
- **How much of demand for the resource comes from BLM lands?**
  - Ex: 10 mmbf demanded by mill, 4 mmbf from local region, 1mmbf from BLM lands (5 mmbf imported from lands outside region).
  - BLM provides only OHV area within 100 miles.

21

How does the quality of the opportunity or resource on BLM lands compare with those elsewhere? Are some of the others on public lands, and are there any trends in conditions or management of those resources that have an effect on uses or perceptions of BLM land?

Dr. Diana Burton's work published in the American Journal of Agricultural Economics and Forest Science indicates that USFS timber supply in Oregon does not affect employment in Oregon. So be careful in assuming that BLM supply of resources will necessarily translate into employment. There may not be a demand for it.

Many ranchers primary source of income is NOT from Ranching. They work in town or in the mines and their wives teach school, etc. So there income is not dependent on ranching.

If a majority of ranchers have small nonviable operations in which they work outside jobs, then ranching is a lifestyle factor, not an economic one. As such, ranching is no different than recreation or hunting in terms of being a lifestyle choice, not an economic necessity.

## Effects of Continuation of Existing Management

- This will be accomplished using the techniques discussed in Step 6.
- Lays groundwork for assessment of effects of no-action alternative.
- Should overlap with issues.

22



## Tips and Tricks

- Tell stories rather than just present a mass of information.
- Collaborate with (or at least review by) community residents and leaders to bring it home—use quotes for illustration .
- Make sure groundwork is laid for developing alternatives and assessing effects.

23

## Key Points

- **Focus data collection on information needed to address planning issues.**
- **Economic aspects of AMS**
  - Description of economic forces in study area.
    - EPS is tool, but not complete representation.
    - Consider other data if needed.
  - Estimate sustained yield of resources.
  - Estimate future demand, inside/outside study area.
  - Estimate local dependency of study area on BLM resources .

24

AMS = Analysis of the Management Situation

EPS = Economic Profile System

## More Key Points

- **Social aspects of AMS**
  - Describes *who/what* is affected by BLM plans and policies, and *why*.
  - Some information from standard federal data sets (such as Bureau of Census).
  - Addresses messy but important issues—quality of life, community resiliency.
  - If needed, new (primary) data can be collected through surveys or interviews.

25

# Formulate Alternatives

## Planning Step 5

1

In Step 3 and 4 of the planning process we addressed inventory data and analysis of management situation. The corresponding social and economic tasks involved: identifying resource data from the other resource programs that will be used in the social and economic analysis, assembling appropriate social and economic baseline data, conducting social and economic assessments, and identifying key social and economic indicators

In Step 5 of the planning process we will address social and economic opportunities and constraints to help formulate alternatives.

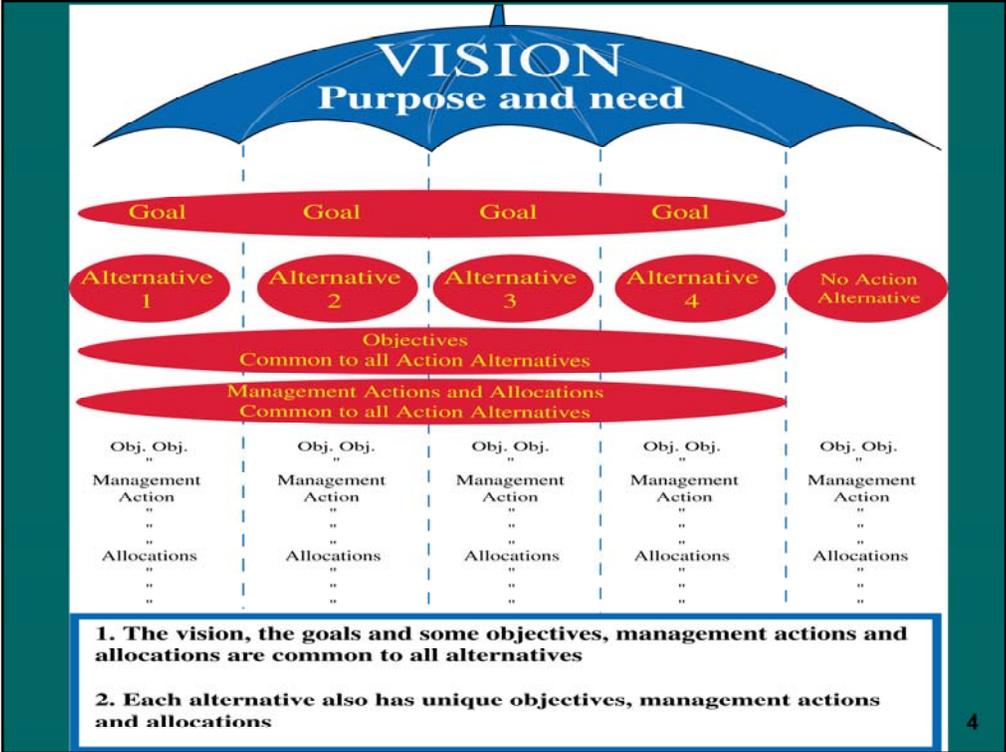
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Step 9: Monitor/evaluate	<ul style="list-style-type: none"> <li>·Track S/E indicators</li> </ul>

## Step 5 Objectives

- Incorporate social & economic factors into management alternatives, including...
  - Alternative theme, goals, objectives.
  - Management actions, allocations, allowable/restricted uses.
- Refine alternatives to mitigate social & economic effects.

3



## Expanding the Role of Social and Economic Variables

- Role of social and economics has typically been as impacts only.
- Social and economic concerns can be used to effectively influence design of alternatives.
- Collaboration / public involvement can be valuable at this step.
- Many ideas will come from public comment and local government issues.

5

### TIPs

Look to planning issues for ideas

Cooperating agencies will have some suggestions!

Alternatives can be revised to mitigate social or economic impacts discovered through the effects analysis

Elements of a Plan Alternative (Management Actions) may include:

- Statement of management activities, or land uses that are allowed, restricted, excluded
- Tie to objectives
- Basis for subsequent implementation and effectiveness monitoring

An alternative theme is the “flavor” of an alternative, the general concepts or goals of what it’s trying to attain. For example, the theme of Alternative A may be continuation of current management. The theme of Alternative B may be to emphasize a moderate level of protection, use, restoration, and enhancement of resources and services. The theme of Alternative C may be to emphasize the most active measures to enhance fish and wildlife habitats. The theme of Alternative D may be to emphasize active management to produce food, fiber, minerals, and services, and include the highest level of forest and woodland treatments.

## Examples from ICBEMP

- Rate, targeting, and geographic distribution of benefits (thinning)
- Degree and type of collaboration in implementation and monitoring
- Degree and type of mitigation and monitoring proposed to address social and economic impacts
- Addressing cross-jurisdictional issues

**What are some examples from your planning experience?**

6

The first of these addressed the sequencing and location of land management activities such as thinning—could these be developed to benefit communities?

The second acknowledges that we can involve individuals, groups, and organizations at different levels in many land management activities.

The third may not only contain federal actions, but requests to local governments.

## Other Examples

- Reduce risk of fire in the interface area.
- Increase motorized recreational opportunities in areas where impacts are acceptable.
- Reduce user-cattle conflicts in the riparian area.
- Prioritize opportunities leading to resource-based jobs and development in low-income areas.
- Maintain areas where community residents have a strong sense of place.



7

# Estimating Social and Economic Effects

## Planning Step 6

1

In the Introduction we had a preview of: Course Objectives, Agenda, Why Consider S&E Analyses, Tool Box Approach, Economic Concepts and Variables, and Social Concepts and variables.

In Step 1 & 2 we focused on the social and economic analyses tasks that relate to identifying planning issues and developing planning criteria. We quickly reviewed planning issues, planning criteria, and preparation plans to establish a basis for addressing public participation strategies for identifying social and economic issues, social and economic criteria, and contracting social and economic analyses.

In Step 3 and 4 of the planning process we addressed inventory data and analysis of management situation. The corresponding social and economic tasks involved identifying resource data from the other resource programs that will be use in the social and economic analysis, assembling appropriate social and economic baseline data conducting social and economic assessments of current management, and identifying key social and economic indicators.

In Step 5 we addressed social and economic opportunities and constraints to help formulate alternatives.

Now in Step 6 we will address methods for analyzing social and economic effects of alternatives. This is put into perspective on the next page.

### Social Science Activities in Land Use Planning

Planning Steps	Social Science Activities
Steps 1 & 2: Identify and Develop Planning Criteria	<ul style="list-style-type: none"> <li>•Identify publics and strategies to reach them</li> <li>•Identify social and economic issues</li> <li>•Identify social and economic planning criteria</li> </ul>
Step 3: Inventory Data	<ul style="list-style-type: none"> <li>•Identify inventory method</li> <li>•Collect necessary social and economic (S/E) data</li> </ul>
Step 4: Analyze Management Situation	<ul style="list-style-type: none"> <li>•Conduct S/E assessment of continuing current management.</li> <li>•Document assessment methods appendix or technical report</li> </ul>
Step 5: Formulate Alternatives	<ul style="list-style-type: none"> <li>•Identify S/E opportunities and constraints to formulate alternatives</li> </ul>
<b>Step 6: Estimate Effects of Alternatives</b>	<ul style="list-style-type: none"> <li>•Identify analysis methods</li> <li>•Analyze S/E effects of alternatives</li> <li>•Document analysis methods in an appendix/tech report</li> <li>•Assess mitigation opportunities</li> </ul>
Step 7, 8: Identify Preferred Alternative and finalize Plan	<ul style="list-style-type: none"> <li>•Identify potential S/E factors to help select the preferred alternative</li> </ul>
Step 9: Monitor/evaluate	<ul style="list-style-type: none"> <li>•Track S/E indicators</li> </ul>

2

In step 6, we will identify analysis methods, analyze social and economic effects of alternatives, document analytic methods to an appendix or technical report, and assess opportunities to mitigate social and/or economic impacts. All of this will be done within the context of estimating effects of alternatives.

## Step 6 Objectives

- Estimate effects on the local economy (regional economic analysis) and benefits and costs to resource users (economic efficiency or benefit cost analysis).
- Estimate social effects.
- Learn how to improvise.

3

The economic impacts associated with various management alternatives falls in two categories. The first category includes those impacts associated with increased economic activity. This would, for example, include increased sales and purchases associated with increased economic activity generated by increased production in an extractive industry. These impacts are measurable market transactions and are generally quantified by an Input/Output model. The second category is made up of non-market considerations. For example, suppose a management decision involves improving the wildlife habitat and upland riparian areas by reducing grazing in the area of concern. The non-market component of this decision may be equally or more important to understand and quantify as the market component, which involves the loss of income and jobs as result of reductions in grazing. And in this example, by examining both the market and non-market impacts the decision maker has a clearer idea of the impact of the pending decision to reduce grazing.

## Tools in Toolbox

### Planning Tools

- Impact analysis for each resource, use, or value



### Economic / Social Tools

- Regional impact analysis
  - Input-output analysis
- Non-market analyses
  - Travel cost method analysis
  - Contingent valuation method analysis
- Social impact analysis
  - Public participation mechanism
  - Case studies from other plans
  - Existing data from Census Bureau, state / local data bases
- Field research (surveys, focus groups, expert panels, key informants)
- Peer review

4

## Impact Assessment

The purpose of impact analysis is to assess the social and economic consequences of implementing the various alternatives identified in the planning process (*H-1601-1, BLM Land Use Planning Handbook*).

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## Two Categories of Economic Effects

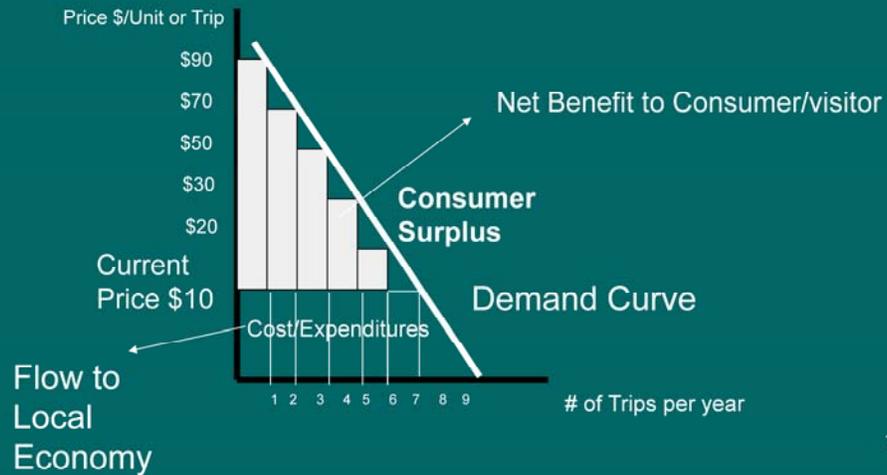
- Measure regional economic impacts of market transactions on local jobs and income.
  - Input-Output analysis
- Measure changes in market and non-market value of resources to users.
  - Benefit-Cost Analysis

6

Input-output analysis is basically an accounting system that describes dollar or volume flows or commodities between all sectors of the economy. (Refer back to Introduction)

Benefit-cost analysis focuses on what the user would pay for resources (Refer back to Introduction)

## Demand Curve and Consumer Surplus



The chart once again shows the demand curve and consumer surplus. Roy will discuss in more detail the economic analysis methods associated with costs/expenditures (flow to local economy)

## Regional Impact Analysis

- Regional economic modeling of effects on local economy
- Input / Output Analysis
  - IMPLAN
  - REMI
  - Input Output Model
    - Primary Data
    - Secondary Data
    - Combination of both Primary and Secondary Data

8

IMPLAN = Impact Analysis for PLANing

REMI = Regional Economic Models Inc.

As mentioned earlier, the typical approach used by economists to quantify the regional economic impacts is to use an Input/Output analysis. This approach starts with a transaction matrix that includes all the sales and purchases in the study area. And from this information, the model can quantify the increased economic activity generated by an injection of new outside money coming into the study area as a result of a BLM management decision. This approach enables BLM to quantify the economic impact associated with alternative decisions being considered in, for example, an RMP or EIS.

## Regional Modeling

### IMPLAN and Other I / O models

- Quantify the sales and purchases of all the sectors producing goods and services.
- Quantify all the payments and final demand in the study area.
- Quantify total gross output and total gross outlay.
- Generate multipliers.
  - Output, employment, income multipliers

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The following BLM Planning and/or NEPA efforts have either used or are planning to use an Input/Output approach to quantify the economic impacts of BLM decisions: Rawlins RMP, Kemmerer RMP, Casper RMP, Pinedale RMP, Jonah Infill Oil & Gas EIS, and the Craig RMP. All of these projects used IMPLAN to analyze the management alternatives being considered in the NEPA effort. In the case of Craig, IMPLAN will be used in conjunction with examining the non-market values. For the non-market analysis, Contingent Valuation Methodology (CVM) and some Travel Cost work will likely be used. The other examples focused on IMPLAN, and as a result, non-market values were overlooked. In the case of the NEPA work for the Pinedale area, a Task Group has been established consisting of local government, industry and interested citizen representation. This task group has already examined the issues that are critical to them and have produced a report that includes a monitoring plan, mitigation plan and an implementation plan. Those plans will be ranked by priority and submitted to BLM for consideration regarding what actions to take.

Multipliers are generated in an Input/Output analysis. The multiplier indicates the number of times money turns over in the study area. The multiplier is specific to each sector and is a good indicator depicting the relative importance, measured in economic impacts, of each sector. For example, suppose timber production increased by a million dollars and the value of total production increased by one and a half million dollars, the multiplier would be 1.5. In this example, for every dollar of increased sales delivered outside the study area (exported timber sales), the total economic impact within the study area is one and a half times that amount or one and a half dollars.

## Transactions Table

		Processing Sector					Industry Purchasing		Final Demand				
Output \ Input	1. A	2. B	3. C	4. D	5. E	6. F	7. Gross Inventory Accumulation (+)	8. Exports to foreign countries	9. Gov't. purchases	10. Gross private capital formulation	11. House holds	12. Total Gross Output	
Industry Producing	1. Industry A	10	15	1	2	5	6	2	5	1	3	14	64
	2. Industry B	5	4	7	1	3	8	1	6	3	4	17	59
	3. Industry C	7	2	8	1	5	3	2	3	1	3	5	40
	4. Industry D	11	1	2	8	6	4	0	0	1	2	4	39
	5. Industry E	4	0	1	14	3	2	1	2	1	3	9	40
	6. Industry F	2	6	7	6	2	6	2	4	2	1	8	46
Industry Purchasing	7. Gross Inventory depletion (-)	1	2	1	0	2	1	0	1	0	0	0	8
	8. Imports	2	1	3	0	3	2	0	0	0	0	2	13
	9. Payments to government	2	3	2	2	1	2	3	2	1	2	12	32
	10. Depreciation Allowance	1	2	1	0	1	0	0	0	0	0	0	5
	11. Households	19	23	7	5	9	12	1	0	8	0	1	85
	12. Total Outlays	64	59	40	39	40	46	12	23	18	18	72	431

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This matrix represents a sample Transactions Table illustrating the purchases (columns along the top of the table) and Sales (rows along the left side of the table) in a hypothetical economy.

## Transactions Table Definitions

1. Processing Sector: Industries producing goods and services
2. Payments Sector
  1. Gross Inventory Depletion: using up previously accumulated stocks of raw materials, intermediate goods, or finished products
  2. Imports: worth of goods imported from abroad (outside the study region)
  3. Payments to government: payment to governments (federal, state, local) in the form of taxes for services provided
  4. Depreciation allowances: cost of plant and equipment used up in the production of goods
  5. Households: wages, salaries, dividends, interest and other similar payments made to households
3. Final Demand Sector
  1. Gross inventory accumulation: amount of inventories accumulated or the additions to inventories
  2. Exports: value of exports from each processing industry
  3. Government purchases: purchases made by all levels of government
  4. Gross private capital formation: purchases for the replacement of or additions to plant and equipment and any other purchases that are entered on the capital account
  5. Households: purchases of finished goods and services by their ultimate consumers
4. Total Gross Outlay: total value of inputs to each of the industries and sectors in each column at the top of the table 11

This is a list of definitions for the Transaction Table.

## Impact Analysis (Examples)

- Analyze the impacts of an increase of \$1 million in Routt and Moffat Counties.
- \$1 million in the oil and gas sector
- \$1 million increase in recreational activity
  - \$150 k in sporting and athletic goods
  - \$375 k in eating and drinking
  - \$375 k in hotels and lodging
  - \$75 k in automobile leasing
  - \$25 k in hospitals
- Assess impacts.
  - Total output
  - Income
  - Total employment
  - Multipliers

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The example given in this slide covers two scenarios:

- An increase of \$1 million dollars in the oil and gas sector that is exported outside the study region
- An increase of \$1 million dollars in recreational spending that is coming into the study region

The purpose of these examples is to show the magnitude of these changes and how the same \$1 million dollar increase impacts the study region differently.

It should be noted that in order to run an Input/Output analysis the resource specialists must provide the inputs. These are the inputs that we discussed in Step 3 (Data collection, remember the request for data from the Butte RMP). In other words, each resource specialist must be able to quantify the anticipated impact to his/her resource that is associated with each management alternative in order to run an Input/Output analysis.

## Oil & Gas Impacts (Routt & Moffat, CO)

Sector	Change in Final Demand	Direct	Indirect	Induced	Total	Note
Natural Gas & Crude Production:	\$1,000,000					
<b>Output</b>		\$1,000,000	\$275,668	\$158,067	\$1,433,735	Value of an industry's total production.
<b>Value Added</b>		\$698,420	\$122,582	\$105,774	\$926,776	Sum of Employee Compensation, Proprietary Income, Other Property Type Income and Indirect Business Taxes.
<b>Labor Income</b>		\$279,457	\$74,682	\$57,725	\$411,864	Sum of Employee Compensation and Proprietors Income
<i>Employee Compensation</i>		\$123,197	\$44,466	\$48,785	\$216,448	Total payroll costs (including benefits) of each industry in the region.
<i>Proprietors Income</i>		\$156,260	\$30,216	\$8,940	\$195,417	Payments received by self-employed individuals as income and reported on federal tax forms.
<b>Other Property Type Income</b>		\$338,678	\$37,608	\$35,815	\$412,101	Payments for rents, royalties and dividends.
<b>Indirect Business Taxes</b>		\$80,286	\$10,291	\$12,234	\$102,811	Consists of excise taxes, property taxes, fees, licenses, and sales taxes paid by businesses but do not include taxes on profit or income.
<b>Employment</b>		6.3	2.3	2.5	11.1	Number of jobs for each industry (full-time and part-time workers).
						13

**Direct Impacts:** This is the initial increased sales involving new money coming into the study region.

**Indirect Impacts:** This is the additional economic activity within the study region resulting from the initial increase in Direct sales delivered outside the study region. In other words, in order for the Direct sales to increase, additional purchases will occur in the expanding sector. This increased economic activity will spawn further purchases and sales within the study area, which accounts for the multiplier affect.

**Induced Impacts:** As result of the initial increase in Direct sales delivered outside the study region, household income rises and new household spending occurs. This increased household spending further increases the total impact of the initial increase in Direct sales.

## Recreation Impacts (Routt & Moffat)

Sector	Change in Final Demand	Direct	Indirect	Induced	Total	Note
Recreation	\$1,000,000					
<b>Output</b>		\$1,000,000	\$197,223	\$197,924	\$1,395,147	Value of an industry's total production.
<b>Value Added</b>		\$593,793	\$124,069	\$132,491	\$850,353	Sum of Employee Compensation, Proprietary Income, Other Property Type Income and Indirect Business Taxes.
<b>Labor Income</b>		\$375,430	\$70,603	\$72,443	\$518,476	Sum of Employee Compensation and Proprietors Income
<i>Employee Compensation</i>		\$349,103	\$55,233	\$61,189	\$465,525	Total payroll costs (including benefits) of each industry in the region.
<i>Proprietors Income</i>		\$26,326	\$15,370	\$11,254	\$52,950	Payments received by self-employed individuals as income and reported on federal tax forms.
<b>Other Property Type Income</b>		\$151,428	\$40,944	\$44,740	\$237,112	Payments for rents, royalties and dividends.
<b>Indirect Business Taxes</b>		\$66,935	\$12,522	\$15,308	\$94,765	Consists of excise taxes, property taxes, fees, licenses, and sales taxes paid by businesses but do not include taxes on profit or income.
<b>Employment</b>		20.4	2.7	3.2	26.3	Number of jobs for each industry (full-time and part-time workers).

## Impact Summary

Item	Oil & Gas	Recreation
Change in Final Demand	\$1,000,000	\$1,000,000
Total Output	\$1,433,735	\$1,395,147
Output Multiplier	1.4337	1.3951
Total Value Added	\$926,776	\$850,353
Total Labor Income	\$411,864	\$518,476
Total Other Property Type Income	\$412,101	\$237,112
Indirect Business Taxes	\$102,811	\$94,765
<b>Employment</b>		
<b><i>Employment/\$1,000,000</i></b>		
Direct Employment	6.3	20.4
Indirect Employment	2.3	2.7
Induced Employment	2.5	3.2
Total Employment	11.1	26.3
Employment Multiplier	1.7619	1.2892 <sup>15</sup>

The results of an Input/Output model run can be displayed in a summary table similar to the ones shown above.

**Rule of thumb:** Output multipliers are generally in the range of 1.25 to slightly over 2

## Implementing IMPLAN

- If you want more than one IMPLAN run to reflect a range of inputs – be sure to factor in SOW.
- Does not assess impact to communities – requires additional analyses.
- Need to account for leakage.
- IMPLAN assumes there is sufficient capacity for community to meet increase demand for labor, housing, water, etc.
- Higher wages from mining may just reflect high risk of injury & death not increasing well being.

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## Topics for Discussion

- What does it cost?
  - Primary data model
  - Calibrated model
  - Secondary data model
- Analysis time?
- Do other agencies use IMPLAN?
- Who provides the input data?
- When do you use IMPLAN?

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**Analysis Costs:** Primary data model requires a year or more to complete and costs about \$150,000 to \$250,000. Calibrated model using secondary data takes about 3 months to calibrate and costs about \$40,000 for a 3 or 4 county area. Secondary model using IMPLAN with no calibrations costs around \$1,500 for all the counties in Wyoming. Secondary model using REMI with some calibration is about \$4,000 for a 1 county baseline run and one alternative run.

## Summary of Regional Economic Analysis

- Regional analysis
  - Quantifies the local economic impacts (jobs, income) associated with each alternative.
- Ranking mechanism
  - Provides a mechanism for ranking alternatives based on local economic impacts.

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## Cautionary Note on Cumulative Regional Economic Effects

- **Cumulative impacts**
  - Cumulative impacts must be considered to put impacts in perspective.
    - Example - Development of simultaneous oil and gas fields in the same general area
      - Impacts associated with project employment being local or imported
        - Infrastructure
        - Social services
        - Housing, etc.

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## Techniques for Valuing Market and Non-Market Resources and Measuring Changes in Values

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Valuation of Marketed resources such as oil/gas or timber or sand/gravel is fairly straightforward as these resources have prices in the market or competitive bids made. However valuing AUM's on public lands do not have market clearing prices, so the economic value or producer surplus must be calculated from ranch budget analysis and requires a person with training in range economics. Many public goods on public lands are not marketed but they are scarce and provide satisfaction, and hence have an economic value even if no money changes hands. Thus Non-market valuation is a specialization within economics. These economists use visitor or homebuyer's behavior to estimate the monetary values these individuals have if there were a real market.

## Components of Total Economic Value

- Public lands can provide public goods and other non-market resources; benefits to users are not reflected in regional economic impact analysis.
- The total economic value of resources include
  - On-site use value
  - Off-site value
- Passive use values are at least half the total economic value for unique resource.
- Passive use values are important for unique natural resources on BLM land.

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On-site use value includes recreation, water quality to towns, air quality, etc. Off-site or passive use value includes:

- option values for future recreation use,
- existence value from just knowing resource exists,
- bequest values to protect the resource for future generations.

This is also called non-use values for rare species & natural environments. Techniques for measuring value of non-market resources are appropriate for unique natural resources such as wilderness, T&E species habitat; free flowing rivers, etc.

Notebook has pie chart of “total economic value”

## Why Total Economic Values Matter in RMPs

- RMP is designed to allocate federal land resources that are owned by all U.S. citizens, not just local residents.
- While economic effects per person may be higher locally, aggregate effects of RMP alternative is often higher non-locally because there are far more non-local users and non-users affected.
- Non market values represent economic benefits to user groups which may not be adequately reflected in local area spending in regional economic analysis (backpackers may spend less than RV campers, but hikers may have higher consumer surplus if their expenditures are lower).

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BLM lands are federal lands managed under the Federal Land Policy and Management Act hence each U.S. citizens own a share of the public lands. The same is true of National Monuments and National Landscape Conservation System: there is a legitimate national interest in the management of these lands. Small effects per person add up to large aggregate effects because of the public good nature of protecting lands.

Economic benefits to users may actually be higher the less spent. So while backpackers have lower economic impact, they realize higher net economic values (i.e., higher consumer surplus).

## Measuring Components of Total Economic Value

- On site use value
  - Travel cost method for estimating recreation demand and benefits
  - Contingent valuation method (direct questioning)
- Passive use value
  - Contingent valuation method

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On site use value is not only recreation but includes subsistence use as well. On-site Use includes consumptive, non-consumptive and subsistence use. Techniques to measure On Site Use Values include the Travel Cost Method (TCM) and the Contingent Valuation Methods (CVM).

**Travel Cost Method (TCM) for Estimating Recreation Demand:** is a revealed preference method-what people actually do--vote with their feet by visiting a site. From the TCM Demand curve you can calculate the visitor's consumer surplus or net willingness to pay. TCM was developed by the first Director of BLM.

**Contingent Valuation Method (CVM)** asks visitors or household to report their net WTP or consumer surplus by using a simulated market in a survey.

## Use of Non-Market Valuation by Federal Agencies

- Travel cost and contingent valuation method (CVM) recommended in 1979 for use by federal agencies (COE, Bureau of Reclamation).
- NOAA panel recommended CVM for passive use value (panel included two Nobel Laureates).
- NPS & Bureau of Reclamation have used CVM for Olympic NP, Grand Canyon NP.
- USFWS used CVM for wolf reintroduction EIS.

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References include:

- U.S. Water Resources Council, Principles and Guidelines for Water and Related Land Studies.
- Report of the NOAA Panel. Federal Register, 1993. (Often referred to as Arrow, et al. 1993).

There are literally hundreds of TCM and CVM studies performed world wide!

## Travel Cost Method (TCM)

- Use variations in visitor travel costs to trace out a demand curve for recreation.
- From demand curve the net WTP or consumer surplus can be calculated.
- Can determine how # trips and value per trip changes with management, fishing or hunting quality, water quality, facilities, etc.

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Net WTP = net willingness to pay or consumer surplus

The change in visitor days with each alternative can be multiplied by the value per day to arrive at the change in benefits with a change in management.

## Data Needs and Sources for TCM

- Using existing data for zonal TCM.
  - Visitor zip codes from permit data, trail registers, visitor registers, fee receipts
  - Visitor zip codes, county of origin from surveys conducted by others
- Survey data for TCM
  - Add questions to fish & game agencies' surveys.
  - BLM visitor surveys (example next page)

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Zonal TCM can be done using visitor zip code data, e.g. 1978-79 using BLM Moab District permit data for rafting and backpacking.

Fish and Game agencies often add questions to their creel or post season hunter surveys so TCM can be used.

BLM is doing recreation surveys already that contain information from which travel cost demand models can and have been estimated.

## List of BLM Survey Sites for which TCM Consumer Surplus Estimates will be provided

- State      Site/Area
- AK              Steese NCA
- CO              Anasazi Heritage Center
- CO              Canyon of the Ancients
- ID                Mackay Reservoir
- NM              Wild Rivers Recreation Area
- OR              Cavitt Creek Falls Rec Site
- OR              Yaquina Head Natural Area
- WY              Upper Green River SRMA

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Above is a list of BLM Sites for which recreation data to perform TCM has been collected. BLM Washington Office will issue a report on these consumer surplus estimates per day in 2005. As we will discuss in the section on benefit transfer, average consumer surplus estimates for these sites may provide a proxy to similar sites. Remember, the TCM value(s) must be multiplied by your own use estimates to get total value! This is explained in more detail below.

**Recreation Benefits (Consumer Surplus/  
Person/ Day) at Selected BLM Recreation Sites  
as Estimated by Travel Cost Demand Model**

State	Site/Area	Consumer Surplus per day
CO	Anasazi/Canyon of Ancients	\$19
NM	Wild Rivers Rec Area	\$20
OR	Clay Creek	\$42
OR	Fishermen's Bend	\$48
OR	Gerber Rec Site	\$67
OR	Topsy Rec Site	\$67
OR	Whittaker Creek Rec Site	\$42
WY	Upper Green River SRMA	\$44

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The BLM TCM study on recreation use value per day indicates an average visitor to Clay Creek would pay \$42 per day more than their current costs to visit this site. The \$42 is their net willingness to pay over and above costs. These are not expenditures, and should not be used in IMPLAN. This \$42 is an average, i.e. some people will pay less; some would be willing to pay more. These values per day can be multiplied by the total use of the site to estimate the aggregate recreation use value under existing conditions. If you can estimate the change in trips with a change in some management action or RMP alternative, then the change in trips can be valued using the average consumer surplus per day.

Another method of calculating consumer surplus is to use Contingent Valuation Method (CVM).

## Contingent Valuation Surveys

- Involves a random sample of public to determine what a majority of people who own the resource and pay taxes think about the resource trade-offs.
  - Is not a public opinion poll.
  - Measures what people would sacrifice (↑ taxes or ↑ gasoline prices) to protect the area.
  - Changes nature of the debate from "Wildlife vs. People" to one recognizing people care about wildlife or wilderness or intact ecosystems.
  - Thousands of applications including to T and E species, wilderness, water quality, air quality, recreation.

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CVM Surveys involve YOU selecting a representative sample of the public, rather than as in public meetings, having only the interested public come to you. With a high survey response rate (60-80%) you can be assured the responses do represent the general public, rather than just the squeaky wheels that come to public meetings.

CVM surveys are like the non-game check off on income tax forms or voter referenda to raise sales tax to pay for open space. Thus a CVM survey is like a simulated voter referenda.

CVM Surveys must be done carefully otherwise the results will not be accurate. The Willingness To Pay (WTP) estimates for different groups can allow you to weight those opposed and those in favor and arrive at an overall bottom line--dollars provide weights that reflect the individual's intensity of values.

References to CVM applications can be found in:

- Mitchell and Carson, 1989. Using Surveys to Value Public Goods: The Contingent Valuation Method
- Loomis and Walsh, 1997, Recreation Economic Decisions, Venture Publishing.

## Using Benefit Transfer of Existing Values to Planning Area

- Benefit transfer is the application of values estimated using TCM and CVM for similar resources to your resource area.
- Recreation use benefits estimates from BLM site list, USFS, USFWS or literature if...
  - Your field office offers the same mix of recreation activities and similar quality as an area for which estimates exist.
  - IF **YES**, use the value from the site/area that most closely matches your field office.
  - If **NOT**, use average value from USFS list (next page).
- Air, water quality benefits (EPA website)

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TCM = Travel Cost Method

CVM = Contingent Value Model

**Benefit Transfer** involves taking benefit estimates from existing TCM and CVM studies and applying them to your area.

**Purpose of Benefit Transfer:** If you do not have time or budget to perform an original TCM or CVM you can still do non-market valuation of resources if studies for similar resources exist in the literature. It is better to use a rough estimate of recreation value than to omit consumer surplus and show only part of the impact. Omitting analysis of consumer surplus implies a zero value and suggests that only commodities have an economic value or the only economic effects relate to jobs. This is discussed further in the following slides.

## Selected Consumer Surplus Per Day: Unit Values Day Values from:

[www.fs.fed.us/rm/pubs/rmrs\\_qtr72.html](http://www.fs.fed.us/rm/pubs/rmrs_qtr72.html)

or newer values at [www.fs.fed.us/pnw/data/RecValues.htm](http://www.fs.fed.us/pnw/data/RecValues.htm)

<u>Activity</u>	<u>Intermountain</u>	<u>Pacific Coast</u>
Camping	\$26	\$87
ORV	\$12	\$33
Hiking	\$32	\$26
Hunting	\$26	\$27
Fishing	\$41	\$37
Viewing	\$36	\$30

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Rosenberger and Loomis, 2000, is an entire Rocky Mountain Research Station publication on this. The analysis is based on 1996 dollars, so you would want to update to using the Consumer Price Index to current dollars. Remember these represent average consumer surplus per day, which when multiplied by your use levels yields benefits that can be used for valuation or benefit-cost analysis. These averages are better approximations of the true value than is omission, which implies a zero value.

## Class Discussion

- Which values would you measure?
- Which method would you use?
- Who would you sample?
  - Upland game bird hunting in the county
  - Local river rafting
  - Premier multi-day whitewater rafting
  - The only high desert resident elk herd in U.S. likely to be adversely affected by mineral leasing

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Question 1 – Use or passive use value?

Question 2 – Travel Cost Method or Contingent Value Survey Method

Question 3 - Who would you sample? (Users, locals, general public)

## Social Impact Assessment

- Definition
- Types of dependent variables to consider
- Examples of impact analyses from RMPs
- Social impact assessment (SIA) exercise
- How to estimate social effects

33

Unfortunately there is no cookbook approach; every situation will be different...

## Social Impacts Definition

The consequences to human populations of any public or private actions that alter the ways in which people live, work, play, relate to one another, organize to meet their needs and generally cope as members of society. The term also includes cultural impacts involving changes to the norms, values, and beliefs that guide and rationalize their cognition of themselves and their society (*Interorganizational Committee on Principles and Guidelines 2003*).

34

So let's never see a line like this one, taken from a BLM FEIS: "Clearly, this alternative has the potential for the most adverse impacts to socio-economic resources.

Here are some other definitions:

The main purpose of...social analysis in resource management is to answer the question "Who is affected by an agency action, and how are they affected?" (Richardson 1993).

Social impact assessments estimate how proposed actions and their alternatives will affect the quality of people's lives (Bryan and Hendee undated).

SIA is a systematic effort to identify, analyze and evaluate social impacts of a proposed project or policy change on the individuals and social groups within a community or on an entire community in advance of the decision making process in order that the information derived from the SIA can actually influence decisions (Burdge and Robertson 1990)

Social impact *management* is a people-centered, ongoing decision-making process designed to identify, evaluate, respond to, and monitor the public issues arising from industry and government activities (Preister and Kent 1981).

## Dependent Variables in a Social Impacts Analysis (SIA)

- Set of actions contained in an alternative is an independent variable (agent of change).
- Changes in other resource areas (outputs, conditions, opportunities) can lead to social effects.
- Level and type of social impact depends not just on the change in the dependent variables, *but on how people and institutions evaluate and respond to the change.*

35

Unfortunately, there's not one set that is always used. So we will describe the range of possible variables and say why they were chosen for that particular planning situation.

Excerpt from Interorganizational Committee:

Analyze impact equity; seldom or never will all parties be affected the same way by an action, program, or policy

Identify winners and losers, impact pathways, significance, considering ability to cope with change

How will the benefits & costs of the action be distributed (rural/urban; income levels, age)

In situations where it's difficult or undesirable to be so bold, you can just report the level of change

## Construction Project Effects

- Population impacts (size, ethnicity, values)
- Community and institutional arrangements
- Conflicts between local residents and newcomers
- Individual and family level impacts
- Community infrastructure needs



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Here and following are several examples of dependent variables from a variety of EISs.

These are types of effects one might expect from a big construction project or other development that brings new people into the area (Burdge 1995)

## SIA for Exxon Valdez Oil Spill

- Disruptions of usual ways of living, including personal health and well being;
- Loss of personal and community control;
- Displacement of usual and expected actions, plans, and resources.



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Each of the above was discussed at the community, interpersonal, and individual scales

One interesting effect was the influx of jobs and money that came into many tiny villages; although this was a positive impact in some ways, it also had negative effects such as disrupting established patterns of behavior (families spending less time together, children alone, more money for alcohol).

Same firm has a contract to return this year for follow up study on Kodiak

## ICBEMP Social Impacts

- Effects on predictability of resource flows
- Effects on access to decision making
- Effects on private lands
- Effects on communities and quality of life
- Effects on American Indian tribes



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Replaces old slide #36, step 6

CBEMP = Interior Columbia Basin Ecosystem Management Plan

These were the types of effects associated with broad-scale ecosystem management plans

## Tongass National Forest Plan

- Employment in tourism/ recreation; timber; mining
- Economic structure and diversity
- Community stability/resiliency
- Quality of life
- Recreation opportunities
- Access to traditional lifestyles (including subsistence uses)



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We'll see more later on how effects on communities were estimated

The following case studies examine some important social factors to consider...

## Impacts to Vietnamese Longliners of Closing the Swordfish Fishery



- Psychological well-being
- Family well-being
- Vietnamese community cohesion
- Longline community cohesion
- Cumulative effects

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# SIA Example: Dillon RMP

41

## LOTS OF PIECES TO FIT TOGETHER

- Data collected
- Potentially affected groups: grazing permittees, Dillon residents, quiet recreationists, environmental justice populations, etc.
- How each alternative could affect each group
- How to work with collaborators
- Which methods to use to estimate effects
- How to decide which effects are most important (magnitude and duration)

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# SIA Thinking Process

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Affected Group	Concerns	Potential Social Impacts (methods)	Indicator-Value for Alt. C	Verify info. Interpret magnitude of effects	Impact Conclusion
Permittees	Loss of roaded access to favorite place	Q of L decline; people leave area	Close 10% of roads	BLM travel management specialist	Access still exists to all areas – no impact
Permittees	Change in grazing management	Income loss, diversification of operation or people forces to work off ranch; decline of Q of L	Avg. loss of \$1000 for 6 ranches	BLM economist, county commissioners	Possible decline in Q of L to two small ranches
Permittees	Loss of upstream motorized access to river (June to Aug.)	Difficulty managing ranch ops; inc. in mgt costs, decline- Q of L	Discuss w/economist, range spec., to see if can dev. indicator	Same	Effects greater than Alt A but less than Alt B
Permittees	Local schools close due to loss of taxes	Schools are integral to the community, decline- Q of L if lose schools	Tax \$\$ from O&G dev. increase by \$1000 annually	BLM economist	No effect on school survival
Summary of impacts to permittees					44

## Social Effects to Society as a Whole

- May be greater than the sum of the effects to individual groups.
- “Adoption of Alternative B or C could add to the concern of some residents about increasing government control over public lands. Very small towns that are experiencing continued population decline and are highly dependent on agriculture could find their population decline accelerated. The potential loss of open space, if ranches were sold and developed in some manner, could add to the ongoing loss of open space under these alternatives.” Dillon RMP

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## SIA Thinking Process (cont)

- Need one table for each potentially affected group for each alternative.
- Way to document SIA process—keep for your records.
- Not as complex as it seems—some duplication among alternatives; groups.
- May use some other typology for social effects (such as by community) .
- Leads to the next two tables.

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## Dillon RMP Summary of Impacts

Social	Alt A No Action	Alternative B	Alternative C	Alternative D
Permittees				
Dillon Residents				
Quiet Recreationists				
Motorized Recreationists				
Permitted Outfitters				
Groups and Ind who give a high priority to resource protection				
Groups and Ind who give a high priority to resource use				
Environmental Justice				

## Dillon RMP

### Summary Comparison of Impacts

Social	No Action (A)	Alternative B	Alternative C	Alternative D
	<p>Would provide benefits to those who value livestock grazing and those who value motorized activities. Social well being of those who would give a very high priority to resource protection and those who value non-motorized activities would decline.</p>	<p>Livestock grazing, the availability of roads for motorized activities, resource protection and use activities, and opportunities for solitude and non-motorized activities would be allowed at levels between Alternatives C and D.</p>	<p>Would provide the most benefits to those who would give a very high priority to resource protection and those who value solitude and non-motorized activities. Social well-being of those who value traditional uses of public lands and motorized recreation would decline.</p>	<p>Would provide the most benefits to those who value traditional uses of public lands for livestock grazing, mining, forest products, and motorized recreation. Social well-being of those who would give a very high priority to resource protection and those who value non-motorized activities would decline.</p>

## Methods Used in Dillon RMP

- Cause and effects web and “thinking process chart” to focus the analysis
- Discussions with potentially affected groups / individuals
- Case studies (including SIAs on the same area or those with similar issues)
- Experts: BLM resource people, university experts
- Verification of conclusions by different sources

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## Collaboration in the Dillon SIA

- Early review of methods and results by county commissioner's representative
- Discussions with RAC members (represent different perspectives, developed the alternatives for Travel Management), county planners; commissioners; state and federal government reps
- ID team rep attended all team discussions.

50

## Dillon Social Impact Sections

- Assumptions for Social Analysis (pp 286-286)
- Impacts Common to All Alternatives (p 302)
- Impacts from Alternative A—No Action (pp317-317)
- Impacts from Alternative B—Proposed Action (pp 333-334)
- Environmental Justice (p 301)
- Cumulative Impacts (p 368)
- Methods Section (conspicuous by its absence)

51

## Dillon SIA Critique

- Focus too much on attitudes (“real” and “perceived” effects)
- More focus on the actual social effects rather than the resource changes driving them (problem with all the sections in RMPs).
- Improved summaries by affected group

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## Hints for SIA in RMPs

- Bring together all the effects on a particular group (may not occur anyplace else).
- Work closely with resource specialists to enhance understanding.
- May need to describe effects in terms of communities of interest (affected groups), communities of place, or use some other method.

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### More Hints for SIA in RMPs

- Verify conclusions by using different ways to look at a particular issue and using a variety of information sources.
- Focus the analysis on the most important effects.
- Teasing out the effects of relatively minor changes against a moving background can be a challenge.
- Timing can be a challenge because the social analyst needs the results of other specialists' analysis before they may be done.

54

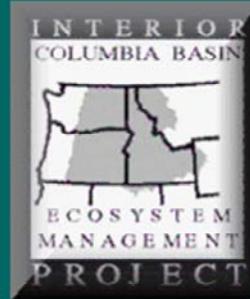
## **New Issues or Old Issues with New Twists**

- Sense of place
- Light and noise pollution (physical measurements and psychological effects)
- Cumulative effects
- Environmental justice (efforts to expand the covered populations)

55

## Special Places – Sense of Place

- “The attachments people have to the land”  
(Leibert, 1997)
- Responsive to public values
- Useful for alternative development, mitigation
- King Range RMP discusses this.
- Upper Columbia River Basin Project developed several papers on this.



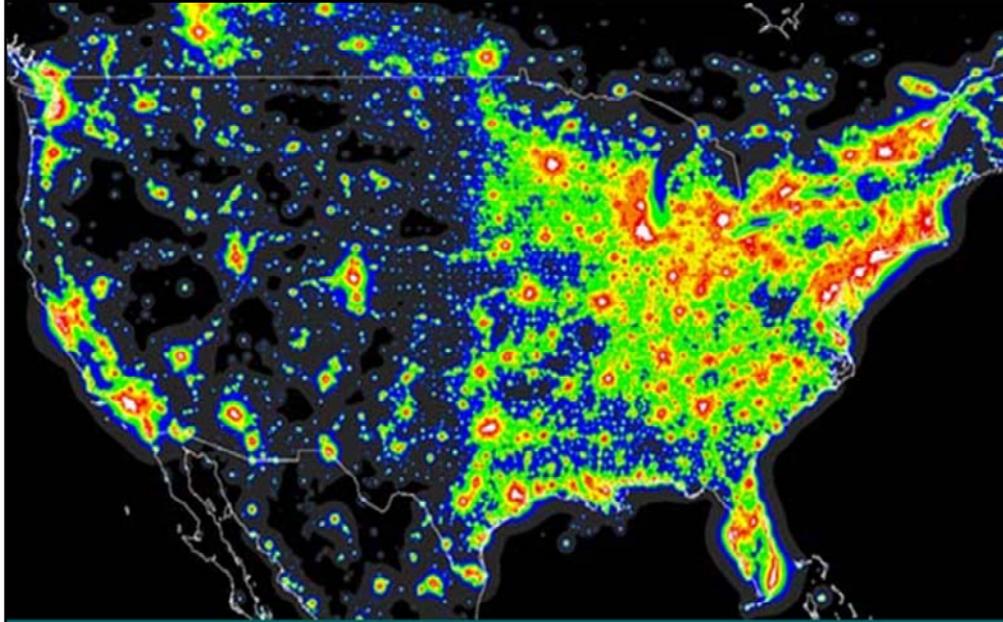
56

## Rocky Mountain Front

Some places are so special – strong feelings that the only mitigation is to stop the project?

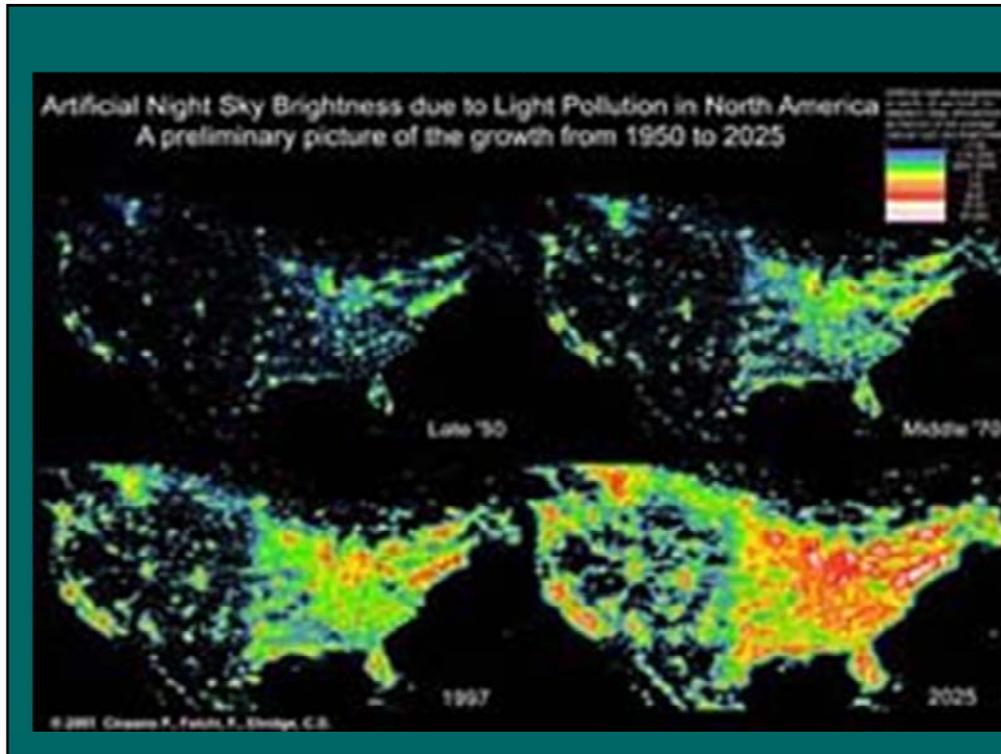


57



A model of light pollution across the US shows very few dark areas remain

58



## Watch for Cumulative Effects

- Proposed actions that may have minor social impacts in themselves must be considered as potentially contributing to cumulatively significant change.
- Another change to present results by affected group.
- If you do a good job on the social effects analysis, you will have met the requirements for environmental justice.

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## **Environmental Justice (EJ)**

Watch for disproportionate negative impacts on low-income, minority, or tribal populations.

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## Environmental Justice

“Each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations.”

--- Executive Order 12898 (1994, amended 1995)

62

Origin: 1982 proposed siting of PCB landfill in low income, black community.

Includes “people who principally rely on fish and/or wildlife for subsistence” and any associated health risks. For Alaska, ANILCA extends this to non-health arenas.

## The Scope of Environmental Justice



63

Multiple interrelated aspects of environmental justice.

Environmental Justice Mapping Tool:

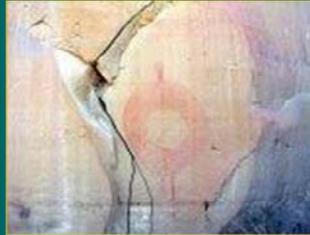
[http://www.epa.gov/region08/community\\_resources/ej/ejmap.html](http://www.epa.gov/region08/community_resources/ej/ejmap.html)

For the Interagency Working group on Environmental Justice:

<http://www.epa.gov/compliance/environmentaljustice/interagency/index.html>

## Weatherman Draw EA

- Area is currently used by native people for religious practices, and plant gathering (ceremonial and medicinal purposes).
- One of the biggest concerns was people finding out the location of the site and that happened anyway.
- EJ section described the concerns of the tribes toward the project and mitigation measures.
- Rock art



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## More Environmental Justice

- Is not limited to effects on human health.
- Is easy to describe minority and low income populations using census data.
- Can be much more difficult to discuss impacts.
- Must be a relationship between BLM activities and the environmental justice population.
- Don't assume affected populations will attend meetings or hearings; may have to proactively engage.

65

## Assessing EJ Impacts

- “The current environmental and socioeconomic CBM (coal bed methane) impacts are spread across all races, ages, and income levels...environmental regulations are enforced to protect all groups....”
- Are you assured that EJ effects have been addressed?



- Why or why not?
- Would you like to see anything else mentioned here?

66

## Assessing EJ Impacts (cont)

- “This restriction on collection of vegetation for personal use would reduce opportunities for all equally. However, Native Americans would be disproportionately adversely impacted since they are the main traditional users of those products.”
- Are you assured that EJ effects have been addressed?
- Why or why not?
- Would you like to see anything else mentioned here?



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**Table 1: FRAMEWORK FOR SOCIAL FACTORS ANALYSIS**

Social Factor or Variable	Baseline Case (Profile/Status Quo)	Baseline Projections (w/o change)	Baseline Projections (w/change)	Social Impact Assessment
Demographics, e.g. - Population data - Education				
Cultural data related to fishery, e.g. - Norms - Values				
Social Structures and Institutions, e.g. - Fishery - Community - Family (kin)				
Cultural data related to community, e.g. - Norms - Values				
Participation in fishery, e.g. - Historic data - Present data				68

From NOAA Social impact Assessment guidelines

The selection of the key sub-variables from each general category should meet the following general standards and criteria:

relevance to the analysis, or how closely the variable relates to the MSA and/or NEPA action or policy;

significance, or how strong the impact is likely to be;

availability, or how available data are with which to measure the variable;

efficiency, or the extent to which the measurement of one variable obviates the need to measure other variables;

sensitivity, or the degree to which the variable and its measurement clearly register changes from the baseline for each reasonable alternative;

accuracy, or the degree to which the variable and its measurement yield consistent results; and

validity, or the reliability of the measure and whether it correctly represents the variable.

## Techniques / Information Sources

- Overall public meetings and correspondence
- Stakeholder outreach / involvement results
- Case studies of impacts from other plans
- Information contained in state and local plans
- Field research (surveys, focus groups, expert panels, key informants)
- Peer review of draft impact assessment
- Quality of life / resiliency issues

69

## Overall Project Public Meetings and Correspondence

- Use scoping meetings, newsletters and comment sheets, and other project public contacts as an avenue for collecting information impacts.
- If the public reviews draft alternatives, ask for concerns and comments regarding possible social or economic impacts.

70

## Use the Stakeholder Outreach / Involvement Program

- Continue to communicate with stakeholders as you have been.
- Ask about their concerns regarding impacts, what could be done to reduce, avoid, or enhance those effects, and how they might respond.
- Use their quotes in the impact write-up.

71

## Case Studies of Impacts from Research and Other Plans

- Adapt ideas and frameworks from other EISs on RMPs and other plans and projects.
- A sizeable literature has been developed on impact assessment.
- The literature can be especially useful as a basis for making predictions about behavior (why people are expected to respond a certain way).

72

## Information Contained in State and Local Plans

- Regional and local plans contain goals that describe where they hope to be in the future.
- Assess whether and how an alternative will facilitate / impede / not affect those goals.
- Relatively easy to do and reflects concern for interactions between public land management and communities.
- Follow up by asking for local review of your conclusions (or let happen through Draft EIS).

73

## Field Research

### (surveys, interviews, focus groups)

- If a survey is conducted of local population or visitors, make sure to include questions relevant to assessing impacts.



- Alternatively, interview stakeholders, alone or in groups, asking about their concerns a priori or asking them to review your draft impact assessment.

74

## Expert Panels

**Expert panels are an efficient and potentially effective way to identify social impacts.**

- Be aware of Federal Advisory Committee Act implications in design of panel and its deliberations.
- Don't consider it to constitute the impact assessment, but to be major source of information for it.

75

## Tongass NF Panel Example

- Panel composed of five community experts meeting for two days.
- Information packet prepared and overview of alternatives presented.
- Estimated nine types of effects on thirty-two communities of nine management alternatives.
- Members rated effects as positive, negative, or neutral for each criterion.
- Panel members gave individual ratings (not consensus).

76

Used ratings matrix

Room for improvement on methods, but technique remains viable

## Peer Review of Draft SIA

- Most likely, impact assessment will include speculation (also called professional judgment) about major types of effects on major subgroups of the affected population.
- Peer review by social scientists will go a long way toward increasing your comfort level (and legal requirements of the Data Quality Act).

77

## Resiliency As An Intervener

- Resiliency at any scale can determine whether a change constitutes a significant impact.
- Define your indicators of resiliency indicators and how they mediate effects.
- History of dealing successfully with past change is one indicator of resiliency that avoids negative labels.

78

See county example—two disparate views on nearly adjacent pages!



## Tips and Tricks

- Insist that outputs from other effects analyses be identified before the social and economic analyses can be finished.
- It's better to be roughly correct on important issues than to be precisely correct on unimportant ones.
- Don't guess or try to use common sense; always have some basis for estimating impacts.

79

## More Tips and Tricks

- Beware of using county-level data to describe effects on communities.
- Don't just repeat the features of the alternative in the effects analysis.
- Be wary of attaching global labels like positive or negative to effects; changes are perceived differently by different people or groups.
- People posture, act strategically, and don't necessarily know how they will respond and adapt!

80

## Still More Tips and Tricks

- Use assumptions liberally where needed and state them clearly; reveal data gaps.
- Re-read each line of the draft SIA, and ask yourself if you could defend that line on the witness stand.
- If you don't have someone qualified to do the social and economic analyses, don't worry--your appellants probably will....

81

# Identify Preferred Alternative and Finalize Plan

## Planning Steps 7 & 8

1

In Step 6 we discussed methods for analyzing social and economic effects of alternatives. Now in Steps 7 and 8, we will identify potential social and economic factors to help select the preferred alternative. This is put into perspective on the next page.

## Social Science Activities in Land Use Planning

Planning Steps	Social Science Activities
Steps 1 & 2: Identify and Develop Planning Criteria	<ul style="list-style-type: none"> <li>•Identify publics and strategies to reach them</li> <li>•Identify social and economic issues</li> <li>•Identify social and economic planning criteria</li> </ul>
Step 3: Inventory Data	<ul style="list-style-type: none"> <li>•Identify inventory method</li> <li>•Collect necessary social and economic (S/E) data</li> </ul>
Step 4: Analyze Management Situation	<ul style="list-style-type: none"> <li>•Conduct S/E assessment of continuing current management.</li> <li>•Document assessment methods appendix or technical report</li> </ul>
Step 5: Formulate Alternatives	<ul style="list-style-type: none"> <li>•Identify S/E opportunities and constraints to formulate alternatives</li> </ul>
Step 6: Estimate Effects of Alternatives	<ul style="list-style-type: none"> <li>•Identify analysis methods</li> <li>•Analyze S/E effects of alternatives</li> <li>•Document analysis methods in an appendix/tech report</li> <li>•Assess mitigation opportunities</li> </ul>
Step 7, 8: Identify Preferred Alternative and finalize Plan	<ul style="list-style-type: none"> <li>•Identify potential S/E factors to help select the preferred alternative</li> </ul>
Step 9: Monitor/evaluate	<ul style="list-style-type: none"> <li>•Track S/E indicators</li> </ul>

## Steps 7 and 8 Objectives

- Identify the important economic and social concerns that surfaced in issue identification and scoping.
- Prioritize the social and economic issues.
- Incorporate appropriate social and economic factors into those issues when identifying the preferred alternative.

3

## Develop / Select Preferred Alternative

- Work with the decision-maker to ensure a basic and common understanding of the social and economic issues that surfaced during the planning effort.
- Consider a newsletter asking people to evaluate alternatives based on their perceptions of effects and encourage the use of this information to help craft a preferred alternative.
- Help the decision-maker prioritize the social and economic issues.
- Ensure that social and economic concerns and likely effects are correctly incorporated into the selection process for the preferred alternative.

4

## Selection Criteria

What are some social or economic criteria that should be considered when you select the preferred alternative?

5

Recall that general factors to consider in deriving selection criteria are based on purpose and need, planning issues, legislation (e.g. for National Monuments), etc.

At this step in the process we evaluate the social and economic impacts and compare these impacts to the social and economic criteria established in the early stages of the planning process. The impact analyses should allow the social scientist to rank the impacts among the alternatives considered, and determine which, if any, of the alternatives would cause unacceptable social and/or economic impacts. Ranking and determining unacceptable social and/or economic impacts should be transparent to the public.

Unacceptable changes in social or economic characteristics are determined by professional judgment, consultation with peers, commonly accepted standards, state/local plans, laws, regulations, executive orders, case law, etc. The social and economic criteria as well as unacceptable changes in social and economic characteristics may also be based on levels established, reviewed, and accepted by the public early in the planning process.

## Process for Selecting the Preferred Alternative

- Summarize significant social and economic effects by alternative (table format).
- Apply selection criteria.
- Involve the public and cooperating agencies, as appropriate.
- Identify the preferred alternative.

6

## Issue and Revise Draft RMP / EIS

- Consider soliciting public comments in ways that allow for interaction.
- Revise social and economic sections based on comments received.
- Suggest changes to the preferred alternative based on comments received.

7

## Issue Final and ROD

- Encourage decision maker to draft ROD that:
  - Explicitly mentions social and economic concerns and impacts.
  - Describes how these are being addressed and the rationale for addressing them in this way.

8

Social and economic issues, aspects of alternatives, and environmental consequences may be factors in BLM protest process following issuance of the Final EIS and prior to issuing the Record of Decision. This may require additional social or economic analysis or consideration of social and economic impacts for protest resolution.

In some cases there may be a mechanism for direct feedback and interaction while ROD is being developed (Tongass NF consistency example).

# Monitor and Evaluate

## Planning Step 9

1

**Tracking social and economic indicators:** Often teams don't have the time and energy to delve into monitoring, evaluation, and adjustment as result of the RMP. BLM is focusing more attention on resource monitoring, and we should apply that initiative to monitoring the social and economic aspects of the RMP decisions.

### Social Science Activities in Land Use Planning

Planning Steps	Social Science Activities
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Step 7, 8: Identify Preferred Alternative and finalize Plan	<ul style="list-style-type: none"> <li>•Identify potential S/E factors to help select the preferred alternative</li> </ul>
Step 9: Monitor/evaluate	<ul style="list-style-type: none"> <li>•Track S/E indicators</li> </ul>

## Step 9 Objectives

- Demonstrate the benefits of conducting social and economic monitoring.
- Provide examples of indicators that could be monitored.
- Make everyone happy that we've gotten through all nine steps with minimal pain and suffering.

3

## Implementation, Monitoring, Adaptive Management

- Monitoring social and economic variables meets the same adaptive management needs as other types of monitoring.
- Checks how you are doing and detects social and economic changes that can affect BLM lands and management activities – whether you caused them or not.
- Provides new baseline data and feedback to impact estimates.

4

Regulations in 43 CFR 1610.4-9 require that land use plans establish intervals and standards for monitoring and evaluations, based on the sensitivity of the resource decisions involved.

**Monitoring:** Land use plan monitoring tracks 1) implementation of the land use plan decisions and 2) evaluation of the effectiveness of land use planning decisions.

**Effectiveness** monitoring may be used to determine if desired outcomes are being achieved or if unintended undesirable outcomes are being caused.

**Evaluation:** Evaluations are intended to determine whether the planning decisions and NEPA analysis (including social and economic analyses) are still valid and whether the plan is being implemented. RMPs should be evaluated at least every 5 years to determine if 1) decisions remain relevant to current issues, 2) decisions are effective in achieving desired outcomes, 3) any decisions need to be revised, 4) any decisions need to be dropped from further consideration, and 5) any areas require new decisions. Guidance for land use planning monitoring, evaluation, and adaptive management are provided in the H-1601-1 Land Use Planning Handbook

## Types of Monitoring

- Implementation
- Effectiveness
- Validation
- Trend

5

## Implementation Monitoring

Evaluates whether or not a specific action occurred as planned; are we (broadly defined) doing what we said we would?

- *Example: Are required infrastructure upgrades or specified hiring practices actually occurring on time and as planned (to avoid undesirable social and economic impacts)?*

6

## Effectiveness Monitoring

Evaluates whether or not the properly implemented action is having the desired effects.

- *Example: Is the new timber sale practice attracting more local bidders and resulting in more local economic benefits, as intended?*

7

## Validation Monitoring

Evaluates a model's accuracy in predicting events or performance; checks to see whether assumptions were accurate.

- *Example: Were assumptions about baseline population increases in the region accurate or are they being greatly exceeded; are changes in the model needed?*

8

## Trend Monitoring

Evaluates social and economic changes over time, usually over a broad geographic area; over time, should detect changes in conditions.

- *Example: How are economies in the region associated with the BLM area changing over time, as reflected by multi-community or county EPS analyses?*

## Case Study: Monitoring Effects of the Hawaii Swordfish Closure on Vietnamese-American Fishermen

### EIS social impact assessment

- Focused on economic effects (income).
- Relied on gross assumptions to predict fishermen's responses to the closure.
- Highlighted EJ issue but relied on study of other industries to predict social effects.
- Limited description largely to psychological effects (individual level of analysis).

10

## Monitoring Study

- Revealed additional impacts:
  - Family cohesion
  - Community cohesion
  - Industry cohesion
  - Cumulative impacts
- Described relationships among impacts, creating web of causes and effects.
- Tested assumptions used in the analysis.
- Laid the groundwork for adaptive management and future impact assessments.

11



## Tips and Tricks

- Consider the social and economic indicators used in the earlier steps as potential monitoring variables.
- Involve your cooperators; give them a key role.
- Monitor processes as well as outcomes.
- Any level of social or economic monitoring is an improvement.

12

## Key Points

- Include at least some minimal social and economic monitoring effort in the plan.
- Doing so in a collaborative fashion will provide a variety of benefits.



13

# Web Sites and Contracting

1

## Tips for Contracting Social and Economic analyses

- Critical to have a clear understanding and description of products to be provided and associated costs
- COTR should have some social science experience or training to enable successful monitoring of the contract
- Build some level of participation on the ID team into the contract
- Build internal capacity to do at least some analyses
- Don't do a contract for "socioeconomic" information or analyses
- The BLM still needs to provide data to the contractor<sup>2</sup>

## **Additional Tips for contracting Social Analysis**

- The same person will probably not be qualified to do both the social and economic analysis
- Some type of primary data collection will probably need to be done during the social analysis (could be telephone interviews)
- Need to present results by affected group
- Need to have a clear explanation of how the analysis was done
- Need to have an experienced reviewer examine the analysis
- The key: planning ahead!

3

WO-210 Planning & Science Policy

[http://web.blm.gov/internal/wo-200/wo-210/social\\_sciences.htm](http://web.blm.gov/internal/wo-200/wo-210/social_sciences.htm)

Bureau of Land Management  
U.S. Department of the Interior

<p><b>Staff Directory</b></p> <p><i>How To</i></p> <p><b>Spotlight Items</b></p> <p><b>NEPA Web Guide</b></p> <p><b>ePlanning</b></p> <p><b>E-GIS</b></p> <p><b>Assessment Inventory &amp; Monitoring</b></p> <p><b>State Plans</b></p> <p><b>Map Gallery</b></p> <p><b>Interactive Map Demo</b></p> <p><b>Home</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="background-color: #c6e0b4;">Planning</th> <th style="background-color: #c6e0b4;">Plan Tracking</th> <th style="background-color: #c6e0b4;">NEPA</th> <th style="background-color: #c6e0b4;">Science Policy</th> </tr> <tr> <td style="padding: 2px;">LUP Handbook (PDF)</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 2px;">LUP Manual (PDF)</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 2px;">IM's/IB's</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 2px;">PE&amp;C Meeting Notes</td> <td colspan="3" style="padding: 2px;"><b>Activities:</b></td> </tr> <tr> <td style="padding: 2px;">WO 210 Meeting Notes</td> <td colspan="3" style="padding: 2px;">ent of BLM's Social Science Capabilities (kick-off meeting: September 19-20, 2006).</td> </tr> <tr> <td style="padding: 2px;">Protest Process</td> <td colspan="3" style="padding: 2px;"> <ul style="list-style-type: none"> <li>Distribution of Economic Profile System CD-ROMs to BLM offices and outside groups (October 2006).</li> <li>Issuance of IM 2006-112, establishing minimum qualifications for contractors preparing socio-economic assessments for EISs and RMP's (March 15, 2006).</li> <li>Socio-Economic Aspects of Planning Training Course, held November 14-16, 2006 in Boise, ID. Next year's course: November 27-29, 2007 in Phoenix, AZ.</li> <li>Socio-Economic Online Training Modules: Module 1 ("Reading the Human Landscape") completed. Modules 2 (Economic) and 3 (Social) in process.</li> </ul> </td> </tr> </table> <p style="font-size: 0.8em; margin-top: 10px;">Through the 1960s, the BLM could meet its public mandate by focusing on the skillful stewardship of lands and resources for commodity values. Today the BLM is challenged to an unprecedented degree to integrate natural resource management objectives with social values and constraints. The BLM faces several changes in the political and social context of its work, including a wider set of social values relevant to public lands management, changing western social and economic conditions, demand for a more collaborative style of management, and increased public concern over BLM's socio-</p>	Planning	Plan Tracking	NEPA	Science Policy	LUP Handbook (PDF)				LUP Manual (PDF)				IM's/IB's				PE&C Meeting Notes	<b>Activities:</b>			WO 210 Meeting Notes	ent of BLM's Social Science Capabilities (kick-off meeting: September 19-20, 2006).			Protest Process	<ul style="list-style-type: none"> <li>Distribution of Economic Profile System CD-ROMs to BLM offices and outside groups (October 2006).</li> <li>Issuance of IM 2006-112, establishing minimum qualifications for contractors preparing socio-economic assessments for EISs and RMP's (March 15, 2006).</li> <li>Socio-Economic Aspects of Planning Training Course, held November 14-16, 2006 in Boise, ID. Next year's course: November 27-29, 2007 in Phoenix, AZ.</li> <li>Socio-Economic Online Training Modules: Module 1 ("Reading the Human Landscape") completed. Modules 2 (Economic) and 3 (Social) in process.</li> </ul>		
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You should periodically visit this site for Washington Office updates in the Social Sciences arena:  
[http://web.blm.gov/internal/wo-200/wo-210/social\\_sciences.htm](http://web.blm.gov/internal/wo-200/wo-210/social_sciences.htm)



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CESU
Cooperative Ecosystem Studies Units  
National Network

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**Grand Canyon National Park**

The park is located in the Colorado Plateau CESU. The land is semi-arid and consists of raised plateaus and structural basins typical of the southwestern United States.

**Welcome**

Cooperative Ecosystem Studies Units (CESU) National Network is a network of cooperative units established to provide research, technical assistance, and education to resource and environmental managers.

These units are named to signify their broad role as providers of research, technical assistance, and education to federal land management, environmental, and research agencies and their potential partners.

Cooperative emphasizes that multiple federal agencies and universities are among the partners in this program.

**CESU Network** <http://www.cesu.psu.edu/>

Each CESU is structured as a working collaboration among federal agencies and universities. CESUs are based at universities and focused on a biogeographic region of the country



**Current CESU Units**

- Californian
- Chesapeake Watershed
- Colorado Plateau
- Desert Southwest
- Great Basin
- Great Lakes - Northern Forest
- Great Plains
- Gulf Coast
- Hawaii-Pacific Islands
- North and West Alaska
- North Atlantic Coast
- Pacific Northwest
- Piedmont-South Atlantic Coast

<http://www.cesu.psu.edu/>

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**Applying Social Science to Coastal Management**

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Tools

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**Additional Resources**

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## Applying Social Science to Coastal Management

**PICTURING THE RISK**

Using a Web-based geographic information system (GIS) to determine vulner ability to hazards in Tutuila, American Samoa...

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**Welcome**

This site is designed to help coastal managers and staff members learn about different applications of social science in coastal management. Specifically, this site provides links to social science components of ongoing and completed projects at or through the NOAA Coastal Services Center. The site contains a section of tools, methods, and training opportunities as well as general information resources.

**Want to learn more about projects involving social science at the Coastal Services Center?**  
Visit [Watersheds](#), [Hazards](#), or [Recreation](#).

**Interested in exploring social science and its applications?**  
Go to [Tools, Methods, and Training](#).

**Need more information?**  
[Additional Resources](#) provides links to other social science information and efforts.

**For the social science basics**  
See [Introduction to Social Science](#)

View all current and archived stories.

**Information, Approaches, and Training**

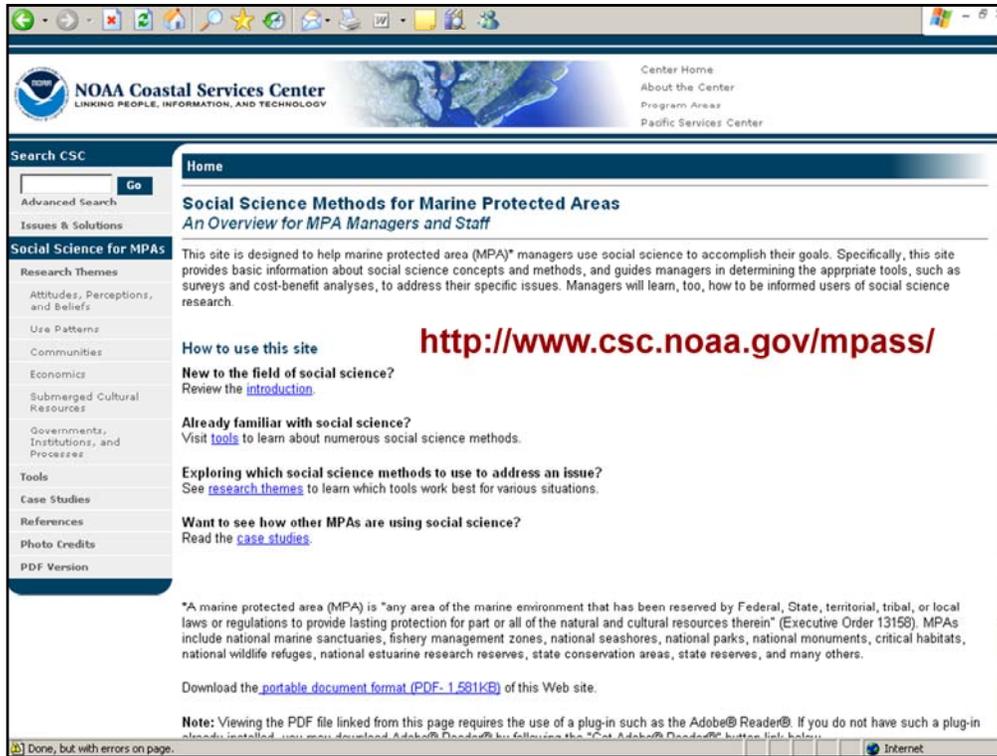
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**Check out the New Hand-Powered Social Science Wheel!**

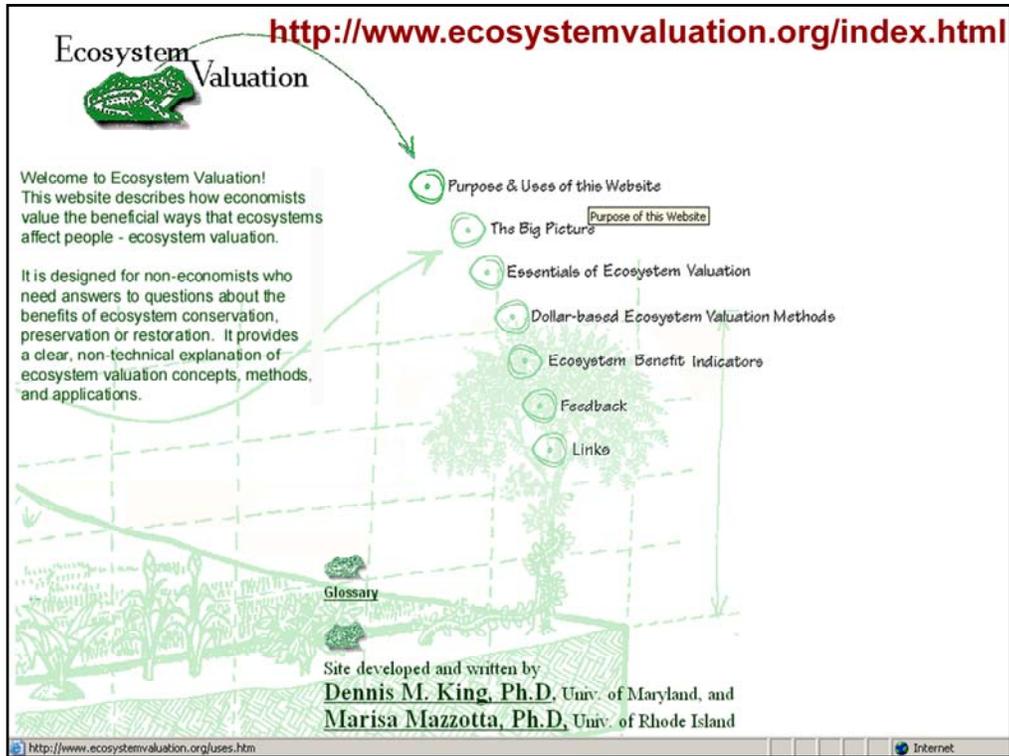
http://ekman.csc.noaa.gov/socialscience\_2/index.jsp

[http://ekman.csc.noaa.gov/socialscience\\_2/index.jsp](http://ekman.csc.noaa.gov/socialscience_2/index.jsp)

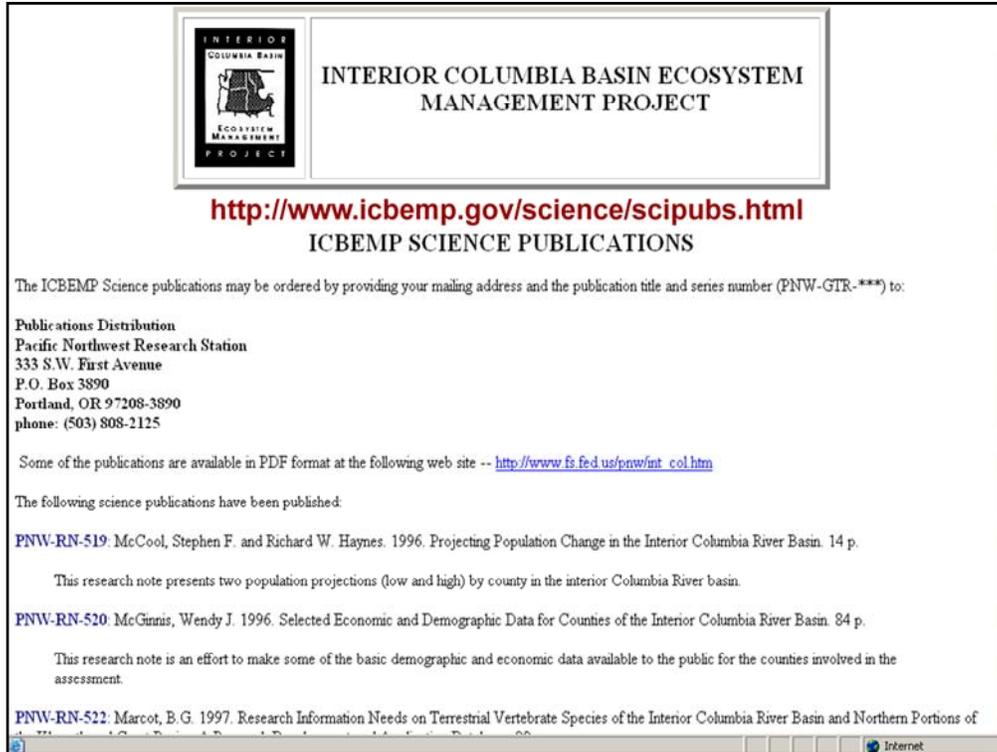


<http://www.csc.noaa.gov/mpass/>

Although this site is design for use in assessing marine protected areas, it contains information applicable to many social science needs.



<http://www.ecosystemvaluation.org/index.html>



 **INTERIOR COLUMBIA BASIN ECOSYSTEM MANAGEMENT PROJECT**

<http://www.icbemp.gov/science/scipubs.html>  
ICBEMP SCIENCE PUBLICATIONS

The ICBEMP Science publications may be ordered by providing your mailing address and the publication title and series number (PNW-GTR-\*\*\*):

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Some of the publications are available in PDF format at the following web site -- [http://www.fs.fed.us/pnw/mt\\_col.htm](http://www.fs.fed.us/pnw/mt_col.htm)

The following science publications have been published:

**PNW-RN-519:** McCool, Stephen F. and Richard W. Haynes. 1996. Projecting Population Change in the Interior Columbia River Basin. 14 p.

This research note presents two population projections (low and high) by county in the interior Columbia River basin.

**PNW-RN-520:** McGinnis, Wendy J. 1996. Selected Economic and Demographic Data for Counties of the Interior Columbia River Basin. 84 p.

This research note is an effort to make some of the basic demographic and economic data available to the public for the counties involved in the assessment.

**PNW-RN-522:** Marcot, B.G. 1997. Research Information Needs on Terrestrial Vertebrate Species of the Interior Columbia River Basin and Northern Portions of

<http://www.icbemp.gov/science/scipubs.html> Contains various social and economic papers from the Interior Columbia Basin Ecosystem Management Project. For more information, contact Joan Trent.