State of Utah

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Governor

GARY R. HERBERT
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Office of the Governor
PUBLIC LANDS POLICY COORDINATION

JOHN HARJA
Director

February 8, 2008

Selma Sierra
Director, Utah State Office
Bureau of Land Management
440 West 200 South, Suite 500
Salt Lake City, Utah 84101

SUBJECT: Monticello Field Office Draft Resource Management Plan & Draft Environmental Impact Statement

Dear Director Sierra:

The State of Utah appreciates the opportunity to work with the Bureau of Land Management as a formal cooperating agency in the preparation of Resource Management Plans and other environmental documentation throughout the state. The state also appreciates the BLM extending similar status to local governmental entities that have a stake in the planning area under consideration. The state firmly believes that cooperative discussions among the various landowners and regulatory agencies will lead to the best possible final product.

The state, local governments and BLM have invested considerable time and effort working together in these planning efforts. The state's expectation is that this process will lead to a well-reasoned and well-formulated plan. An important part of this process will be ensuring that the plan is consistent with state and local plans, policies, and laws, to the maximum extent possible. The plan will then represent a reasonable compromise on the various facets of multiple-use management.

The Public Lands Policy Coordination Office (PLPCO) is tasked by state law to ensure that the positions of the state and its political subdivisions are considered in the development of public lands policy. To this end, PLPCO collected, reviewed and coordinated input from various state agencies, shared this information with local government, sought local government response, and prepared these comments on behalf of the state. While the state considered local governments' input during preparation of its comments, the BLM should also fully consider the comments submitted directly by local governments.

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Initially, the state wishes to recognize and applaud the partnership it has with the BLM on many issues. The restoration and watershed improvement work funded and implemented through the Utah Partners for Conservation and Development is a good example of the achievements possible when agencies work for the improved health of lands and resources. We are optimistic that similar efforts regarding wild and scenic rivers, cultural resources, and air quality will be as successful.

The comments and concerns raised below are offered in the spirit of cooperation through disclosure, analysis and adherence to the provisions of law, regulation, good governance and common sense. The state recognizes planning as a dynamic process that will continue into the future, and reserves the right to supplement these comments as necessary. The state looks forward to resolution of these issues as a cooperating agency through the preparation of the Final EIS and Final Resource Management Plan.

Consistency with State and Local Laws and Ordinances:

The Federal Land Policy and Management Act (FLPMA), in section 202(c)(9), provides that the Bureau of Land Management (BLM) shall "keep apprised of State, local, and tribal land use plans" and "assure that consideration is given to those ... plans that are germane in the development of land use plans for public lands." FLPMA continues by requiring the BLM to assure that the BLM's land use plans are "consistent with State and local plans to the maximum extent ... consistent with Federal law and the purposes of [FLPMA]."

BLM regulation 43 C.F.R. § 1601.0-5(c) defines "consistent" to mean that the BLM "will adhere to the terms, conditions, and decisions, of officially approved and adopted resource related plans, or in their absence, with policies and programs" of state and local governments. BLM regulation 43 C.F.R. § 1601.0-5(g) defines officially approved and adopted resource related plans as "plans, policies, programs and processes" approved pursuant to state legislation "which have the force and effect of state law."

Utah Code section 63-38d-401, *et seq.*, provides standards for state policies, plans, programs, and processes related to use, development and protection for federal lands and resources on federal lands in the State of Utah. It is the policy of the state that this legislation reflects criteria which must be considered during federal planning processes for federal lands, and thereby represents the outline of official plans, policies, programs or processes as referenced in BLM regulation 43 C.F.R. § 1601.0-5(g). The State of Utah will analyze final plans in light of this state law, and incorporates the entirety of this law into its comments. The state requests that the listing shown on page 1-15 of the DEIS be amended to include the plans and policies indicated by this law. We also request that BLM carefully consider consistency with this state law as it formulates its final decision.

The BLM should not simply ignore this law as a product of misplaced federalism. The state recognizes that BLM retains the ultimate authority for decisions made concerning public lands. It is axiomatic that the BLM may not make direct decisions concerning state, local government or private land, and that state or local governments may not make direct decisions

concerning the federal public lands. Yet each entity - state government, federal agency or local government - can make decisions that indirectly affect the other's lands. For example, BLM decisions may impede access to state or private lands, thereby affecting the economic use of those lands. Similarly, state decisions can affect management of nearby BLM lands. Coordinated planning and consistency review intends to minimize these kinds of conflicts. Consistent planning is a direct outcome of our shared responsibility to provide for the health and general welfare of the people and as stewards of the land.

As part of its responsibility for shared stewardship, the state legislatively established the criteria and parameters for successful analysis of multiple-use principles applied to the resources of the public lands in the various BLM Field Offices. The state legislation contains both elements of responsibility by state agencies to its own management of resources under its control, as well as policies and procedures warranting careful consideration in BLM's consistency review.

The BLM must not dismiss the state plans and policies expressed through this law, or any other state or local plans and policies, by concluding federal concerns obviate the need to foster consistency. The BLM is obligated to examine the state and local plans and policies concept by concept, criteria by criteria, and line by line, if necessary, to determine the extent to which the plans and policies of state and local governments represent a consistent statement of the shared stewardship of the land. BLM must make its plans subject to state implementation of federal laws, such as the Clean Air and Clean Water Acts. BLM must also insure its plans adopt and promote the goals of state plans and policies concerning resources owned by the state in trust for the people or specific beneficiaries, including, for example, water, wildlife, and school trust lands. Finally, BLM's consistency requirement means the BLM must exercise its discretionary decision-making authority for the management of the public lands in concert with the vision for the management of the public lands established by state and local governments through the creation of plans, policies, programs and the like. The State of Utah looks forward to working with the BLM to harmonize state, local, and BLM plans towards our shared stewardship responsibility and asks the BLM to consider its statutory responsibility toward consistency in this light.

Economic Studies:

The state, through PLPCO, contracted with Utah State University and the University of Utah to complete a number of economic and social attitude studies regarding the use of, and value attributed to, public land resources. These studies assess citizens' attitudes toward public lands, off-highway vehicle use on public lands, grazing on public lands, potential Wild and Scenic River designation, and economic impacts of oil and gas exploration and production. Below are short summaries of a number of these studies that are works in progress. We will provide copies of these studies upon completion and ask that you consider this information as you prepare the Final RMP and Final EIS.

Utah State University conducted a statewide survey of state residents, the *Utah Public Lands Study*, during the summer of 2007. The survey involved assessing various ways in

which residents engage in economic activities linked to public land resources. Other major purposes involved assessing attitudes toward public lands as part of the residents' quality of life and sense of community, and assessing attitudes and preferences regarding public land management. A preliminary tabulation of results for San Juan County provided as Attachment B. A more complete tabulation and analysis of results for this county, as well as statewide results, will be submitted upon completion.

Preliminary results from Utah State University's Utah *Recreational Off-Highway Vehicle Use Study* shows OHV use becoming increasingly popular, but the number of trips taken per year declining. Recreational activities that OHV users participate in are diverse, including both passive (sightseeing and photography) and active (camping and hiking). Rider motivation includes stress relief and nature appreciation, along with achievement, stimulation, independence and socialization with others. The study also shows economic impacts broken out by direct and total impact to San Juan County as well as by regional gross output, employment, household income, and value-added income. A random utility model will be used to measure change in the allocation of trips across counties, measure change in the total number of trips taken by Utah OHV users, measure change in economic value accruing to OHV users and generate trip-distribution information for use in economic impact modeling. Full results will be made available upon completion of the study.

The Utah State University study, *Dependency on and Alternatives to Public Land Grazing by Operators in Utah*, will provide grazing data, including the survey of dependency on the public range. This study will be made available upon completion.

The Bureau of Economic and Business Research at the University of Utah has completed an economic impact study of the oil and gas exploration and production industry in the Uinta Basin titled *The Structure and Economic Impact of Utah's Oil and Gas Exploration and Production Industry: Phase I - the Uinta Basin*. This study was followed by *Phase II – Carbon and Emery Counties* study. Similar studies will follow for San Juan and Richfield areas. Although completed studies do not coincide with the Monticello Field Office Planning Area, the Field Office should consider the information presented in terms of the economic benefits generated in any reasonably foreseeable development scenario discussed in the Final plan. The full Phase I study is attached for your consideration as Attachment C, and the Phase II study is attached for your reference as Attachment D.

Energy Permitting and Efficiency:

In 2006, the Utah Legislature adopted an energy policy requiring streamlined permitting to expedite issuance of permits for energy-related projects. Utah has a process to perform this function through its Department of Environmental Quality. The Monticello BLM Office should commit to utilizing this established process in the review of such applications.

Energy efficiency is a concept endorsed by the State of Utah through the issuance of a Governor's Executive Order on May 30, 2006. One of the goals is to achieve a twenty-percent

efficiency increase by the year 2015. The state requests that BLM commit to either work toward this goal, or start coordinating alternative energy efficiency increases with the Governor's Energy Advisor.

Areas of Critical Environmental Concern:

The Federal Land Policy and Management Act requires the BLM to "give priority to the designation of areas of critical environmental concern," which are further defined as areas requiring "special management" to "protect and prevent irreparable damage" to "important historic, cultural or scenic values, fish and wildlife resources or other natural systems," or independently, to "protect life and safety from natural hazards." 43 U.S.C. §§ 1711(a) and 1702(a).

The BLM's Handbook further requires that the BLM examine an area for "relevance" and "importance" related to the natural resource values involved as part of the analysis of a possible ACEC. The Handbook, at section 1613.02, provides that the purpose of an ACEC designation is to "protect, and prevent irreparable damage" to resource values, or to "protect human life and safety" from identified natural hazards. The Handbook reiterates the two statutory reasons for considering an ACEC, but slightly alters the statutory language. The statutory requirement to determine special management necessary to "protect and prevent irreparable damage" is altered to read "protect, and prevent irreparable damage" to the identified resources. This difference is a relatively minor point at this juncture, but Handbook section 1613.06 states that it is the policy of the BLM to employ ACEC designation when "special management is required to protect important" resource values. Irreparable damage is overlooked in the policy statement.

This is not a trivial point. The statute requires that an ACEC designation is appropriate only if special management is required to both "protect and prevent irreparable damage" to natural resources, or to protect human health and safety. This apparent loss of focus on the statutory rationale for an ACEC becomes important because Handbook section 1613.1 discusses ACEC characteristics. The first subsection (section 1613.11) discusses the need for "relevance" and "importance," and the second (section 1613.12) discusses the requirement for special management attention. Again, however, the regulatory requirement to discuss the need for special management attention does not focus on the statutory requirement to "protect and prevent irreparable damage" to resources, rather it only speaks to the need to "protect" the important and relevant values.

Additionally, the BLM Handbook, at section 1613.06, indicates it is the policy of the BLM not to use ACEC designations as a substitute for wilderness recommendations. This indicates that BLM will not make any management prescriptions for ACECs that, singly or in the aggregate, constitute management under the Interim Management Protocol (IMP) for wilderness study areas, or management essentially equivalent to management under the IMP.

The State of Utah has, by state statute, set out further recommendations for studies related to ACEC designation. The state believes these studies, or a substantial equivalent, are

necessary to disclose fully the rationale for and the effects of management prescriptions related to each potential and proposed ACEC. In particular, the state statute limits state support of ACECs to situations where potential and proposed ACECs are "limited in geographic size and that the proposed management prescriptions are limited in scope to the minimum necessary to specifically protect and prevent irreparable damage to the relevant and important values" which cause the BLM to consider the ACEC. *See* Utah Code §63-38d-401(8)(c). To obtain state support, the BLM must analyze the required relevant and important values on a regional basis, and analyze the need to "protect and prevent irreparable damage to those relevant and important values" from activities which may occur in the area. The BLM must also explain the need for "special" management for the ACEC and explain how this management is different from normal BLM management and authority, that the protections proposed by the required "special management" do not duplicate or constitute simple restatements of protections afforded by other federal and state laws, and contain other analytical and procedural requirements. *Id.* As parts of its consistency review, BLM should make every effort to consider and incorporate these factors in its decision.

Grazing, Wildlife and Watersheds:

The state supports, as a matter of policy, well-planned and managed livestock grazing, and considers the same as an important landscape-scale tool for creating and maintaining healthy watersheds and resources, including healthy habitat for wildlife. *See* Utah Code § 63-38d-401. The state encourages the BLM to adopt the principle that functionality of the watershed underlies all the resource values of the planning area. The state and BLM are, of course, partners in a major effort to improve the health and functionality of watersheds through the multi-agency efforts of the Utah Partnership for Conservation and Development. To date, many thousands of acres of range and watershed lands have been reclaimed and restored through active efforts and properly managed grazing. Other often-cited examples of the use and value of prescriptive grazing and associated wildlife management are the privately held Deseret Land and Livestock Ranch, and the Hardware Ranch managed by the state's Division of Wildlife Resources. Flexibility of management practices has been the key to success of these two operations.

The Utah State University study, *Trend Information for the Monticello RMP: Livestock Industry Issues* indicates a downward trend in livestock grazing preference and authorized use in the planning area. Portions of this study are attached as Attachment E.

Because of the value of grazing, state policy discourages permanent closure of grazing allotments and encourages the reinstatement of suspended AUMs within the Monticello Field Office when range conditions permit. Permanent closure precludes using grazing as a management tool for improving watershed health, wildlife habitat, and the economic benefits of livestock production. The state, among other purposes, is supportive of using livestock in a prescriptive manner, that is, tactical use to accelerate progress toward improved rangeland health and the reduction of catastrophic fire risk. The state also believes that AUMs suspended for reasons of rangeland health should be reinstated to the permittee when rangeland conditions permit, and in a manner which accommodates the funding needs for

rangeland improvement projects. Also, if beneficial, the AUMs should be amenable to adjustment in the time and timing as discussed next.

The state encourages flexible livestock grazing time (duration) and timing (season of use) in the Final Plan. Through the Utah Partners for Conservation and Development, the Watershed Restoration Initiative, and the Utah Grazing Improvement Program, the state stands ready to work as a partner with the BLM to rehabilitate resources and improve grazing practices to benefit watersheds, livestock, and wildlife. Retaining flexibility in the season of use will greatly aid in the control of undesirable plant species, and in the control of the fuels responsible for catastrophic fire.

In addition, the state encourages the BLM to work with the state, grazing permittees, and conservation organizations to actively monitor and record grazing use data, wildlife populations, and range conditions. The Final RMP should contain and rely on a robust monitoring program so that resource managers and users can communicate, learn, assign responsibilities, and use adaptive management to meet land health objectives.

On a related note, the BLM should only employ the term "critical habitat" when referring to the legal habitat designations for endangered and threatened species under the Endangered Species Act. The state requests that the BLM use the "crucial habitat" designations mapped by the Division of Wildlife Resources solely as descriptive wildlife habitat designations, not as automatic exclusion zones for other multiple uses. In some instances, active management may be necessary to maintain or enhance habitat values; crucial habitat designation is not intended to preclude such actions. The state also requests that these designations not be altered from alternative to alternative, as the area is defined based on DWR's wildlife inventories and may be refined or altered by the state as conditions require.

Air Quality:

The state is concerned about air quality, and has been delegated primacy pursuant to the terms of the Clean Air Act. State concerns are set against a backdrop of an upward trend in ozone in rural parts of the State. In addition, in 2006 the Environmental Protection Agency revised National Ambient Air Quality Standards (NAAQS) for small particulates ($PM_{2.5}$), and has recently proposed revisions to the NAAQS for ozone. These factors suggest proactive efforts between the state and the BLM begin now. As part of these efforts, the state suggests adopting both interim measures and initiating a coordinated approach to assessing and protecting air quality in Utah after the adoption of the Final Monticello RMP. This coordinated approach would include installation of additional monitoring stations, collection of additional baseline data, and creation of robust modeling programs for analysis of future project proposals.

As an interim measure, the state encourages the Monticello Field Office to request that oil and gas operators apply best available control technology. We also encourage the Monticello Field Office to adopt emission standards for compressor engines consistent with the *Four Corners Air Quality Task Force Report of Mitigation Options, DRAFT: Version 7*,

• The state is concerned about likely revisions to the NAAQS for ozone. Volatile Organic Compounds (VOC) and NO_X are precursors to the formation of ozone. All sources of ozone precursors should be considered in future analysis.

• Regional haze is also a concern, especially as it affects Class I areas. The analysis should carefully consider impacts to visual resources and other air quality related values identified by the federal land managers.

Wild and Scenic River Designation Studies:

The state acknowledges the requirement to conduct Wild and Scenic River studies as part of the RMP revision process. Utah law, however, sets forth certain prerequisites for state support of a Wild and Scenic designation, and directs that the BLM ensure appropriate information is developed, disclosed, and used as part of the WSR evaluation process. *See* Utah Code §63-38d-401(8)(a) thru (b). The law indicates, among other things, that river segments proposed for inclusion in the NWSRS should contain water at all times and possess an outstandingly remarkable value which is significant within a physiographic regional context, and that studies of the effects of designation on uses within the river corridor, as well as upstream and downstream from the corridor, are analyzed and disclosed.

While the state is committed to exploring segments of rivers that may qualify for inclusion in the Wild and Scenic River System, the state balances this commitment against concerns that designation of some stream segments as components of the system may jeopardize the ability of local communities, industry, farmers, Indian tribes, and other water users to appropriate and develop water, and to get change applications approved in order to meet their future water needs. Specifically, the state is concerned that Wild & Scenic River designations may, among other possibilities:

1. Limit the ability of communities to develop water needed for future growth;

2. Limit additional industrial growth including oil and gas, and minerals development;

3. Limit additional agricultural growth;

4. Reduce funding to the Colorado River Salinity Control Program, or affect agreements already in place for the Endangered Fishes Recovery Program.

In an effort to understand the nature and extent of the effects of designations, Utah State University conducted a Wild and Scenic River designation study. The study was designed as: (1) a literature review and analysis of the recreation impacts of Wild and Scenic designation, and (2) a literature review and case study analyzing the impact of designation on non-recreational aspects of the economies of local communities and users. Preliminary results indicate: (1) a lack of before and after studies of wild and scenic river designation, (2) anecdotal evidence of a designation effect, (3) one statistical study found no evidence of a

designation effect, and (4) various effects on private and public land uses resulting from designation. Complete findings will be available soon. We encourage BLM to carefully consider this information as it prepares the final RMP.

The state is also concerned about suitability findings for those streams where there are significant water diversions upstream of the subject reach, most of which are for irrigation. While federal reserved water rights are not asserted prior to designation, those stream reaches found suitable are managed as if they were designated. This manage-as-if-designated approach has the potential to cause managers to believe a *de facto* federal reserved water right exists for those reaches, and thereby impact the future management and utilization of valid existing water rights above the reaches. No federal reserved water right can be created until Congress acts to designate river segments as components of the National Wild and Scenic River System. The state believes that this suitability determination phase is the proper time to begin negotiations concerning the extent of any future federal reserved water rights. As a minimum, the State Engineer requests the BLM to catalog all valid, existing water rights that may be affected by designation as part of the Final EIS.

Additionally, the state is concerned that the DEIS does not state, in a full and complete manner, the authority for protection of river segments while studies pursuant to section 5(d)(1) of the Act are underway, and protection until Congress may act upon any recommendations made in planning documents pursuant to BLM planning authority. The 1997 Technical Report of the Interagency Wild and Scenic Rivers Coordinating Council indicates that river segments found eligible or suitable for inclusion in the NWSRS through agency planning processes "[a]re not protected by the [Wild and Scenic Rivers] Act" itself from projects which may affect the "[r]iver's free-flowing characteristics and other identified values." The report explains that an agency which proposes a river for inclusion in the NWSRS "[s]hould, within its authorities, protect the values that make the river eligible or suitable." *See*, *Wild and Scenic Rivers Act: Section 7, Technical Report of the Interagency Rivers Coordinating Council*, Oct. 2004. Also, according to Section 13(f) of the Wild and Scenic Rivers Act (16 U.S.C. § 1284(f)), management of a river segment found suitable for inclusion in the NWSRS cannot interfere with access to sovereign lands found within the proposed segment. Further, BLM Manual section 8351.53 delineates what actions the BLM may take to protect a river segment found suitable for inclusion in the NWSRS, after due process and public notice.

The discussion regarding potential recommendations for additions to the NWSRS in the EIS is contradictory and confusing and does not fully satisfy the requirements of federal or state law, or BLM policy and direction. The state believes it is imperative that the BLM properly disclose the reasons and rationale for determinations of suitability for proposed additions to the NWSRS, and to fully meet the requirements of state and federal law. The state looks forward to working with the Monticello Field Office to address these concerns.

Inventory and Proposed Management of Areas with Wilderness Characteristics:

The State of Utah reviewed BLM's inventory of and proposed management for lands identified as possessing wilderness characteristics. The state does not believe that BLM has

authority to create a category of management based solely on the characteristics of wilderness. The characteristics of wilderness, or its constituent elements, were first recognized by the Wilderness Act of 1964 and extended to the BLM in section 603 of the Federal Land Policy and Management Act of 1976. The authority within section 603 has now expired by its own terms. The state recognizes that recent court decisions affirm BLM's authority to inventory wilderness characteristics, and have required the BLM to consider new information about these characteristics in documents prepared under the National Environmental Policy Act. These decisions do not, however, consider or affect the BLM's statutory authority for management policies, provisions or categories on the BLM lands. The state cautions BLM against an overly broad reading of these decisions. Management authority must be derived solely from the specific provisions of the Federal Land Policy and Management Act, (*e.g.*, Areas of Critical Environmental Concern) or other specific federal legislation, and it is incumbent upon the BLM to carefully define its detailed legal rationale and reasoning for its proposed management policies, provisions and categories.

The State of Utah is committed to outdoor recreation, including primitive and non-motorized recreation, as economic drivers and activities of great interest to the residents of Utah. The state supports retention of appropriate areas in their primitive, semi-primitive, or rural state, after due consideration and in compliance with legal requirements. The state looks forward to working with the BLM to find appropriate management prescriptions and structures to protect primitive, semi-primitive, and rural areas for the use of its citizens, and those of the nation.

Thus, the state asks BLM to provide a detailed explanation of the rationale and authority for managing lands solely because of wilderness characteristics. This explanation should discuss why such management does not circumvent the provisions of the statutorily required wilderness review process. Further, the BLM should fully disclose the rationale and evidence supporting a changed finding for those lands found not to have wilderness characteristics in the first survey in the late 1970s and early 1980s. Such rationale and evidence must contain a discussion of the criteria used, nature and extent of the review and all other relevant evidence and legal reasoning. *See* 43 U.S.C. § 1701(l) and Utah Code § 63-38d-401(6)(b). As the Monticello Field Office moves forward, the state encourages BLM to take great care to read the court decisions carefully, and to comply with the Settlement Agreement resolving *Utah v. Norton*, No. 2:96CV0870 B (D. Utah, Sept. 9, 2005). In particular, BLM should not exercise its authority under section 202 of FLPMA in a manner that establishes, manages or otherwise treats public lands as wilderness unless those lands were congressionally designated as wilderness or were previously designated as wilderness study areas pursuant to section 603 of FLPMA.

In addition to these cautions, the state requests that, in weighing management options for the Final RMP, BLM carefully consider recommendations submitted by local government and not manage lands to protect wilderness character where such management would, in the opinion of local governments, be contrary to the interests of local residents. BLM should also consider the existence of inholdings and valid existing rights, including school trust lands, and

The BLM Manual recognized BLM's need to give priority to state-federal land exchanges:

> The BLM recognizes that resolving these land ownership and management issues is an important public purpose and gives priority to the exchange of state trust lands out of areas designated by the federal government for special purposes.

BLM Manual H-2200-1, Chapter 13, B. (2005) (emphasis added).

The state believes the Draft RMP fails to address adequately these two major issues: The impact of BLM management decisions on state trust lands, and the need for a substantially more robust program for land tenure adjustments between the BLM and the State of Utah. BLM has an obligation to include in its planning an effective and timely means of addressing the impact of federal land actions on in-held school trust lands.

Travel Management:

Under *Utah v. Andrus*, 486 F. Supp. 995 (D. Utah 1979), the State of Utah is entitled to reasonable access across BLM lands to all school trust lands, including those within WSAs. The RMP should specifically state that: (1) continued motorized administrative access on non-designated routes providing access to trust lands will be permitted to SITLA, its permittees, grantees and successors, notwithstanding any closure to the general public, to the extent such motorized access is currently available; (2) SITLA, its permittees and grantees may undertake reasonable maintenance activities to preserve and improve existing access across BLM lands, after consultation and appropriate environmental review by BLM and consultation with local governments as necessary; and (3) existing routes that are the sole access to state trust lands will not be closed and/or reclaimed without full BLM consultation with and approval by SITLA and the State.

San Juan County has submitted a transportation map laying out its transportation system on BLM and other lands. The state urges the BLM to consider this information and to make the BLM's transportation plan for the Monticello Field Office consistent with county desires to keep roads and routes open for the various uses, as indicated. This request is independent of any consideration of R.S. 2477 issues.

Coordination between Land Managers and Reasonably Foreseeable Development:

As part of the planning process, the Monticello Field Office met with other agencies with land management jurisdiction within or adjacent to the Monticello planning area. We encourage the Monticello Field Office to continue meeting with Park Service, Forest Service, local government, and tribal government partners and to use these meetings as an opportunity to harmonize management across jurisdictional lines. While we recognize the field office's efforts to date, the DEIS does not address consistency between neighboring jurisdictions' management objectives. We encourage the BLM to analyze the management objectives

applicable to adjacent lands. We also encourage the BLM to disclose, as part of the Final EIS, specific areas of management conflict and steps the Monticello Field Office will take to resolve conflicting management objectives.

Neighboring BLM field offices are currently preparing RMPs and have Reasonably Foreseeable Development Scenarios (RFDS) for their plans. These RFDSs indicate how much development may is anticipated to occur over the lifetime of the plans. Other federal agencies within the region may have RFDSs or similar projections for development on their lands. Reasonably foreseeable future actions captured in these RFDSs should be identified and considered as part of the analysis. We also encourage the BLM to contact all state, federal, and tribal agencies and collaboratively identify all other significant reasonably foreseeable activities that are likely to impact resources within the Monticello planning area. All such actions should be identified and considered in the analysis. Such an analysis is especially important for air quality related values, wildlife habitat, and socio-economic impacts.

The scope of activities anticipated under the Reasonably Foreseeable Development scenario (RFD) for fluid minerals also needs clarification. The RFD does not clearly state whether its projections are limited to exploration, or include possible subsequent development based on likely economically recoverable discoveries. We encourage the BLM to treat discovery and production as reasonably foreseeable consequences of leasing and exploration, for purposes of consequences evaluated under NEPA.

The state encourages the BLM to prepare and consider a detailed transportation system use analysis. This analysis should be similar to the Utah Department of Transportation's *Analysis of Freight Traffic Associated with Oil and Gas Development in the Uinta Basin* (Oct. 2006). The U.S. Forest Service is utilizing such an approach in assessing the environmental impacts of oil and gas development on National Forest System lands throughout the state. UDOT's analysis estimates the amount of truck traffic involved in developing a new oil or gas well, specifically addressing truck-in of construction equipment; truck-in of drilling related materials such as water, drill mud, well casings, etc.; truck-out of the drill rig; truck in of the completion rig; truck-in of other support facilities and materials; and truck-out of waste removal. Such an analysis provides important information about heavy truck traffic volumes that are necessary when evaluating impacts to multiple resources, including but not limited to noise, air quality (*e.g.* re-entrained road dust) and wildlife.

Real Property - Water:

BLM asserts it will honor all valid, existing rights. However, it appears that this statement may only apply to oil and gas, minerals, and grazing; no mention is made of water rights. Under Utah law, approved and perfected water rights are real property. BLM actions may affect the value of this real property. Because of this, the State Engineer recommends that the BLM consider the impact its actions may have on water rights in general and non-BLM water rights in particular. This recommendation is particularly important because the right to use water is the underpinning of most economic, environmental, and social activities.

If any valid, existing water right will be negatively affected by BLM actions, then possible mitigation and compensation actions should be discussed.

In conclusion, thank you for the opportunity to comment. The state looks forward to continuing to work with the Monticello Field Office as a Cooperating Agency. Further detailed comments and the various studies mentioned are attached. Please feel free to contact me with any questions or concerns about these comments, or the state's continuing desire to work with the BLM on the Final Resource Management Plan for the Monticello Field Office.

Sincerely,

John Harja
Director

cc: Monticello Field Office

ATTACHMENT A
Further State Concerns and Comments

Non-WSA Lands with Wilderness Characteristics:

The following comments regarding non-WSA lands analyzed for the existence of wilderness characteristics are based on background documents provided by the Monticello Field Office. These documents are the recent "Wilderness Characteristics Review" forms from February 2007 (hereinafter "review forms"), and Monticello Field Office Revisions to the 1999 Utah Wilderness Inventory (May 2003).

First, BLM may have inconsistently treated county travel route information. According to the review forms, the 2007 review of proposed non-WSA lands with wilderness characteristics considers county travel route data in determining whether areas have wilderness characteristics. County route information appears to represent new information unavailable at the time the 1999/2003 inventory was completed. It appears BLM did not update the 1999/2003 inventory in light of this new, potentially more detailed information and potentially changed conditions. The result is a potentially inconsistent standard for the existence of wilderness characteristics that could result in the misidentification of non-WSA lands with wilderness characteristics. Because of this oversight, portions of the BLM analysis may not reflect application of the best available information.

Second, undeveloped leases and potential future development should not be considered in determining whether an area possesses wilderness characteristics. The review forms include a list of documents considered during the interdisciplinary team (ID Team) review. These forms indicate that the ID Team considered the Reasonable Foreseeable Development Scenario for Oil and Gas (2005) and the Mineral Potential Report (2005). The Appearance of Naturalness section of many review forms also indicates that BLM considered information regarding reasonably foreseeable development in evaluating the appearance of naturalness. *See e.g.* review forms for Grand Gulch (A-B), Lime Creek, Red Rock Plateau, and Valley of the Gods. As long as oil, gas, and minerals remain undeveloped, no surface disturbance is visible and the possibility of future development is irrelevant. It is, however, entirely appropriate to consider the existence of oil, gas, and minerals when determining the appropriateness of protecting areas with wilderness characteristics.

Third, it appears that conclusions contained in Revisions to the 1999 Utah Wilderness Inventory were not reviewed in light of new information and potentially changed conditions. We understand that BLM utilized several informational sources to develop its route inventory. These sources included: (1) county data (no date), (2) 104 miles of routes submitted by Mr. Knight in response to BLM's November, 2003 request for route data, and (3) 535 miles of route data submitted by SPEAR in response to BLM's November, 2003 request for route data. Draft Travel Management Plan at pp. N-14 - 17.

It also appears that many issues involving route identification were resolved in a series of ID Team meetings and meetings with San Juan County that began in July 2004. *See* Draft

Travel Management Plan at p. N-19. Accordingly, this information was available for, and presumably considered, in the 2007 wilderness characteristics review. It does not appear that the May 2003 wilderness inventory update was updated in light of county information or the 639 miles of routes identified in response to BLM's November 2003 request for route data. It is unclear whether this route information represents significant new information or changed conditions with respect to an area's potential wilderness character. Please discuss any changes to BLM's 1999/2003 determination of wilderness characteristics that result from more recent route information.

Comments Specific to Individual Areas Identified as Non-WSA Lands with Wilderness Characteristics:

Grand Gulch (A-B)

Under the heading Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation, the review form notes "opportunities for solitude can be found throughout each of these areas." The review form describes opportunities for solitude within the contiguous Grand Gulch WSA as "outstanding." The RMP/DEIS indicates that areas with wilderness characteristics must possess outstanding opportunities for solitude or primitive recreation. *See* RMP/DEIS at 3-67. This is consistent with the language contained in the Wilderness Act and BLM direction. *See* 16 U.S.C. § 1131(c), and BLM Instruction Memorandum No. 2003-275 - Change 1 at Attachment 1. Please clarify whether Grand Gulch units A and B possess outstanding opportunities for solitude or a primitive and unconfined type of recreation. If BLM relies on the existence of outstanding opportunities within the contiguous WSA to satisfy this requirement, please clarify how the existence of requisite values can be satisfied at another location.

Hammond Canyon

Normally, the BLM does not consider an area to possess wilderness characteristics unless it is 5,000 acres or larger, contiguous to an existing wilderness area, or continuous to an area administratively endorsed for wilderness designation. Hammond Canyon is 4,702 acres in size and adjacent to a National Forest system roadless area. Please clarify whether this area is administratively endorsed for wilderness. If no, please explain the apparent departure from the 5,000 acre minimum size standard.

Upper Red Canyon

First, the review form for Upper Red Canyon notes "much of the mining activity in the area is still visible in the form of adits or waste dumps," but that these impacts are not considered to significantly impact the area's naturalness. BLM direction states: "Lands exhibit a high degree of naturalness when affected primarily by the forces of nature and where the imprint of human activity is substantially unnoticeable." BLM Instruction Memorandum 2003-275 - Change 1 at Attachment 1. Please clarify the standard applied to determine the existence of naturalness.

Second, under the heading Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation, the review form notes opportunities for solitude can be found throughout the area and that opportunities for primitive recreation are also present. As noted above, we understand that such opportunities must be outstanding in order to warrant designation as a non-WSA area with wilderness characteristics. Please clarify whether opportunities must be outstanding in nature, and whether Upper Red Canyon possess outstanding opportunities for solitude or a primitive and unconfined type of recreation.

White Canyon

Opportunities for solitude or a primitive and unconfined type of recreation are not described as being outstanding in character. Please clarify whether opportunities must be outstanding in nature, and whether White Canyon possesses outstanding opportunities for solitude or a primitive and unconfined type of recreation.

Bridger Jack Mesa, Indian Creek (A-B-C), White Canyon #8, White Canyon #9

The review forms for these areas indicate that outstanding opportunities for solitude are not present within the units themselves, but exist within contiguous WSAs, national parks, or wilderness inventory areas. Please clarify how the existence of requisite values can be satisfied by adjacent lands.

Air Quality:

First, page 4-9 indicates that the air quality analysis assumed all new compressors would operate at a NO_X emission rate of 0.7 g/hp-hr. Please clarify how BLM will ensure emissions from newly permitted compressor emissions will be consistent with this assumption. While we encourage BLM to take aggressive steps to manage emission sources consistent with the EIS's assumptions, this emission rate departs from recent recommendations by the Four Corners Air Quality Task Force and may be difficult to meet.

Second, it appears that the air quality related analysis assumes all compressors used in natural gas development will be gas-fired. *See* RMP/DEIS at p. 4-14. Please clarify how BLM will require utilization of compressor technology consistent with this assumption.

Third, the section entitled Impacts of Mineral Decisions on Air Quality under Alternative A discusses emissions from multiple sources, including gas-fired compressors, glycol dehydrators, and flaring. The discussions that follow repeatedly note that emissions from each source are well below applicable NAAQS. BLM relies on this statement as the basis for evaluating each alternative, noting that adverse impacts would be the same as or similar to those described for Alternative A. It is unclear from the information contained in the RMP/DEIS how BLM equates additional emissions to anticipated ambient conditions

Finally, chapter three of the RMP/DEIS discusses visibility in Class I areas. No comparable analysis is contained in chapter four. Given the importance of the visual resources within BLM's control and the importance of visual quality to the national park visitation experience, we recommend BLM include a careful analysis and discussion of impacts to visibility.

Grazing:

The state has several specific questions regarding BLM's intention to temporarily reduce grazing. The RMP/DEIS makes several references to making allotments "unavailable" for livestock grazing for the life of the plan. *See e.g.* RMP/DEIS at pp. 2-17 and 4-75. Please clarify why these areas would be unavailable. Please also clarify what is meant by the term "unavailable." Specifically, please clarify whether this reflects a decision to temporarily suspend, or permanently retire grazing.

Page 4-254 indicates that, under all alternatives, 137,440 acres would be unavailable for livestock grazing. By comparison, page 2-16 indicates that 125,356 acres would be unavailable for grazing across all alternatives. Please resolve this apparent discrepancy.

Page 4-254 also indicates that, under the No Action Alternative, BLM would make an additional 20,361 acres unavailable for livestock grazing. Normally, the No Action Alternative reflects no change from current management direction or level of management intensity. *See*, *Forty Most Asked Questions on CEQ NEPA Regulations*, 46 Fed. Reg. 18026, 18027 (March 23, 1981). Please clarify why the No Action Alternative involves a change in management direction.

School Trust/Inheld Lands:

ES.4 – Planning Issues – Issue 8 (page ES-3).

This discussion should contain detailed reference to the issue of inheld state lands in special designations, particularly WSAs, ACECs, areas to be managed for wilderness characteristics, and the need to give priority to resolution of this issue.

Section 1.3.1.9.4 – Scoping and Identifying Issues, Concern and Opportunities (Lands and Realty (Page 1-9).

This discussion should contain detailed reference to the issue of inheld state lands in special designations, particularly WSAs, ACECs, and areas to be managed for wilderness characteristics, and the need to give priority to resolution of this issue.

Section 1.3.4 – Development of Planning Criteria/Legislative Constraints – 2nd bullet (page 1-12)

BLM states that the RMP will "apply only to public lands and, resources managed by the BLM." As stated in subsequent sections, the BLM has determined that it will also apply its rules, where appropriate, to split-estate lands where the subsurface mineral estate is managed by the BLM. BLM should re-consider whether it can impose its standards on split estate lands where it does not own the surface. This action diminishes the rights of the surface owner, whether fee or trust lands, to exploit its lands in the manner it sees fit. So long as the operator of an oil and gas well has obtained a satisfactory surface use agreement that can be included in its Application for Permit to Drill to the BLM; BLM should not unilaterally limit mineral development.

Section 1.4.4 -- Energy Policy and Conservation Act (EPCA) (Page 1-16).

This paragraph is a discussion of the BLM's direction under EPCA. This section does not refer to the BLM's requirement to weigh the relative resource values, consistent with the multiple use and sustained yield mandates required by FLPMA. None of the alternatives adequately analyze the loss of revenue from formally or effectively eliminating mineral development in many of the lands subject to Special Designations and restrictive viewsheds. There are references to number of wells to be allowed under the alternatives, but no indication what that means in terms of lost revenue to the United States, the State of Utah, local governments, and Utah's school trust, and the effect of that revenue loss under EPCA.

Table 2-1 – Summary Table of Alternatives – Lands and Realty (page 2-15).

In Management Common to All Alternatives, it should be noted for all alternatives that, pursuant to the decision of the United States District Court for the District of Utah in *Utah v. Andrus*, BLM is obligated to grant reasonable access to the State of Utah and its grantees to school trust lands notwithstanding any special designation or avoidance/exclusion area for rights-of-way on intervening BLM lands. In furtherance of this obligation, no existing roads providing access to trust lands should be closed without the consent of SITLA.

Section 3.6.2.1 – Land Tenure Adjustments (Page 3-35) & 3.6.2.1.2 Exchanges (page 3-36)

These paragraphs should specifically reference the need for federal acquisition of state school trust lands that are captured by federal reservations and withdrawals such as wilderness study areas, and that all land tenure adjustments necessary to accomplish this goal will be a priority, in accordance with applicable BLM policy guidance. *See* BLM Manual H-2200-1, Chapter 13, B (2005).

BLM should substantially increase the areas identified as available for disposition by exchange with the State of Utah, in order to fully permit the elimination of state inholdings in withdrawn areas.

In addition, state selection (*i.e.* quantity grants under the Utah Enabling Act, indemnity selections under the Utah Enabling Act, 43 U.S.C. §§ 870-871, and other applicable statutes) should be mentioned as an equally preferred method of land disposition as land exchanges. The BLM's publicly-expressed policy concerning state selections, as described in the BLM Manual, is as follows: (1) the remaining entitlements of the States are to be considered as obligations and debts due the States by the federal government; (2) in applying applicable laws, regulations and policies, BLM is to consider the equities of the States to the greatest extent possible within the constraints of applicable law; and (3) satisfaction of state selections is deemed as "serving the national interest" in connection with FLPMA, including land use planning under FLPMA. BLM Manual 2621.06 A-C. *See also* BLM Instruction Memorandum No. 82-33, dated October 15, 1981 (IM 82-33).

In paragraph 3.6.2.1.2, the language should be replaced as follows:

> Lands identified for disposal must meet public objectives, such as community expansion and economic development. The preferred method of disposal is land exchange (discussed in Section 3.6.2.1.2). Facilitating acquisition of state trust lands inholdings in wilderness study areas and other sensitive areas through land exchange is considered an important public objective, and will be given priority. State selections under the Utah Enabling Act and other applicable law will also be given priority pursuant to BLM Manual 2621.06A-C…

Section 4.1 – Environmental Consequences of Alternatives (Page 4-3)

State trust lands are directly impacted by RMP decisions, even though BLM does not make land decisions on non-BLM lands. The largest source of revenue for the Utah school trust is from mineral (including oil and gas) bonuses and royalties. In much of Utah, in order to establish an economic oil and gas resource play, the exploration company needs a large aerial footprint. It is likely that multiple sections would have to be leased and developed in order to develop the necessary reserves to make the play economic. In SITLA's direct experience, companies will not lease one trust land section, if they cannot lease the surrounding BLM sections. BLM decisions to withdraw mineral lands from leasing in WSAs, areas with wilderness characteristics, ACECs, and other areas therefore directly affects the economic viability of state trust lands inholdings in those areas, particularly for oil and gas.

Section 4.1.2 Assumptions and Methodology for Mineral Development – Oil and Gas

The RFD must address the fact that BLM withdrawals and special designations directly affect development of oil and gas on SITLA lands. BLM should assume that, in addition to the loss of oil and gas wells on BLM lands, there will be an additional loss of wells on SITLA lands in proportion to the amount of SITLA land within the proposed special designations under each alternative. This issue is not analyzed in the RFD.

Section 4.3.5.1 – Lands and Realty (Impacts Common to All Alternatives) (Pages 4-63)

The first paragraph of Paragraph 4.3.5.1 (Impacts Common to All Alternatives) states that all wilderness study areas (386,027), the Grand Gulch Special Emphasis area of Cedar Mesa ACEC (49,130 acres), portions of Dark Canyon (61,735 acres) and developed recreation sites (250 acres), NSO areas, and areas closed to oil and gas leasing will be managed as ROW exclusion areas. Under *Utah v. Andrus*, *supra*, BLM is obligated to grant reasonable access to inheld state trust lands in WSAs. This fact should be mentioned. In addition, BLM should note in this, or the following paragraph, that since such ROWs and accompanying development on state lands could degrade the wilderness characteristics of particular WSAs, acquisition of inheld state trust lands by land exchange will be a priority of BLM's land and realty program.

Section 3.13 – Socioeconomics (pages 3-96)

BLM decisions to withdraw mineral lands from leasing in WSAs, areas with wilderness characteristics, ACECs, and other areas directly affects the economic viability of state trust lands inholdings in those areas, particularly for oil and gas. Restrictive designations additionally increase the cost of access to trust lands, may impair marketability, and require the expenditure of trust resources in pursuing land exchanges with BLM. These facts should be acknowledged appropriately in the discussion of socioeconomic impacts.

Section 3.17.3 – Travel Issues (Pages 3-152)

Under *Utah v. Andrus*, the State of Utah is entitled to reasonable access across BLM lands to all school trust lands, including those within WSAs. Among the alternatives from No Action to the most restrictive (Alternative B), certain existing routes that provide the only physical access to trust lands sections would be deemed not to be "Designated Routes," and motorized access on such routes would be terminated. Under Alternative B, this problem would be significantly magnified; it appears that up to 728 miles of road leading to trust lands are affected. The Draft RMP fails to address the impact of these closures on the economic value of the affected trust lands in either this section or its section on socioeconomic impacts of the Preferred Alternative. At the very least, the Draft RMP should be amended to specifically state that: (1) continued motorized administrative access on "non-designated" routes providing access to trust lands will be permitted to SITLA, its permittees and grantees notwithstanding any closure to the general public; (2) SITLA, its permittees and grantees may undertake reasonable maintenance activities to preserve and improve existing access across BLM lands, after consultation and appropriate environmental review by BLM; and (3) existing routes that are the sole access to state trust lands will not be reclaimed without full BLM consultation with and approval by SITLA.

Appendix C Lands and Realty; C.1 Tracts Identified for Disposal

The disposal land list is inadequate to meet the need for BLM to acquire all state trust lands in existing WSAs as well as proposed special designations. As set forth below, lands that should be added to the disposal list include the following lands:

BLM interest in the following described areas:

Township 31 South, Range 23 East, SLB&M
Section 3: All
Section 4: All
Section 5: All
Section 8: All
Section 9: All
Section 10: All
Section 15: SE/4SW/4, SW/4SE/4
Section 17: All
Section 20: All
Section 22: NE/4, N/2NW/4

Township 33 South, Range 22 East, SL&M
Section 1: SE/4
Section 12: E/2E/2

Township 33 South, Range 23 East, SLB&M
Section 4: All
Section 5: NE/4, S/2
Section 6: S/2
Section 7: NE/4, W/2W/2
Section 8: N/2
Section 9: N/2NE, SW/4NE/4
Section 17: W/2NE/4, SE/4NE/4, N/2NW/4, SW/4NW/4, SE/4SW/4, SE/4

Historical Resources:

These comments are provided under the National Environmental Policy Act and should not be considered Utah SHPO comment under section 106 of the National Historic Preservation Act. We anticipate further consultation regarding more specific effects to cultural resources under the National Historic Preservation Act when the Final RMP is prepared.

The state appreciates the efforts to conduct proactive resource identification and to prioritize cultural resource inventory areas within the plan and under section 110 of the National Historic Preservation Act. The state recommends that the BLM develop a specific ongoing program designed to identify and target identification efforts under section 110 of the

As concrete examples, we are aware of three areas within the Field Office which have high concentrations of valuable cultural resources. These include Arch Canyon, Recapture Wash, and Montezuma Canyon. Please clarify why these areas have not been proposed for specific management considerations. If they do merit such considerations, we recommend that they be considered for CSMA designation as well.

Stipulations are proposed for the creation of avoidance areas for protection around National Register-eligible cultural resources. Additionally, in other areas of the RMP (*e.g.* 4-284 and 4-385) specific 100-foot buffers are stipulated for avoidance. We are unsure what additional protection is afforded by such buffers. While in some cases they may provide for avoidance of direct impacts, in other cases they may be extreme and unnecessary for avoidance of direct impacts. In many cases, however, they may be insufficient to provide protection from visual, auditory, and other indirect and/or cumulative effects. We recommend that rather than stipulation of a standard avoidance distance that the RMP stipulate that avoidance areas will be established that will be sufficient to protect the resources from direct and indirect impacts based on a specified consideration of the values of the resource and the potential impact areas.

We are unable to determine what protective measures are in place for Hovenweep National Monument, Square Tower (and potentially Cajon) Unit(s). The RMP rightly notes this as a special resource; it is of high importance to the state and is of national significance. Additionally, the visual setting is a key component of the eligibility of the site. Furthermore, it is a significant economic resource for San Juan County, as the Monument draws many visitors who often comment that the relatively undisturbed setting of the site was a draw for them and a significant component of their experience. It appears that under Alternative A (current condition) for the Hovenweep ACEC (Pages 2-39, 40), there is a Visual Protective Zone of 880 acres that includes prescriptions such as NSO for leasing. Under the remaining alternatives, and as indicated on mineral leasing maps, this prescription appears to go away, the area is fully open for leasing, and management of visual resources goes to VRM Class III or IV. However, Table 4.18 (Page 4-41) indicates that under Alternative C at least, there will be 277 acres associated with high site density areas near Hovenweep that are NSO.

Please clarify how potential visual impacts to the setting, feeling, and association of Hovenweep Square Tower (and, if applicable, Cajon) Units, particularly from solid and/or fluid minerals leasing and/or development, will be managed. Because of the importance of this resource in general to the public, tribes, and archaeologists, along with its importance as a heritage tourism site for San Juan County, we recommend that the BLM carefully define management for the area. A careful viewshed analysis could result in a minimal number of acres that would need such management, thus enabling a balance between the need for oil and gas development in San Juan County with the need to preserve heritage tourism as a component of the area's economy as well as ensure that the highly valued cultural resource represented by Hovenweep can be protected.

BLM has shown commendable attention to the resources in the Alkali Ridge area. However, it is unclear how the management prescriptions will account for these resources. Please clarify. With the exception of the Alkali Ridge National Historic Landmark component, the area is listed under all the alternatives as open for oil and gas development with either standard conditions or timing/controlled surface use conditions that provide for little or no consideration of cultural resources. The stipulations in Appendix A (Page A- 5) reiterate that an avoidance area will be established, but do not note whether this area will include consideration of indirect and cumulative as well as direct impacts. The area appears to go from VRM Class III to VRM Class IV under all alternatives. We recommend that alternatives clearly state how all potential effects will be managed for this area. Given that numerous sites in this area have components of their eligibility that relate to visual and auditory setting and feeling, the change in VRM class, along with the low level of other prescriptions appears to create a situation with more management conflicts rather than fewer. Additionally, the change in VRM class appears to have the potential to result in adverse effects. Such effects will minimally need to be seriously analyzed during consultation on the RMP under Section 106 of the National Historic Preservation Act.

The impacts analysis in Table 2.2 (pages 2-67 on) states that there are potential adverse impacts to cultural resources for nearly all alternatives for cultural, fire, health/safety, livestock, minerals/energy, paleontology, recreation, ACEC, travel, and woodlands management decisions. Although the RMP rightly notes that the affects are difficult to assess, can be less than other types of impacts, and may in some cases simply be continuations of existing effects, the RMP also rightly notes that the decisions have the potential to cause adverse effects. These potential adverse effects may need to be addressed via mitigation during consultation under Section 106 of the National Historic Preservation Act for the RMP.

Table 2.1 at p. 2-8 indicates that, under the Proposed Action, the Comb Ridge CSMA would be "[a]vailable for surface disturbing land treatments if consistent with current law, regulations, policy, and management plan objectives." The term "land treatments" is open to broad interpretation and could arguably include land treatments to facilitate almost any action. We encourage BLM to clarify the purposes to which land treatment could be authorized and the types of land treatments that could be allowed within the CSMA. Specifically, please clarify whether allowable land treatments modify the NSO stipulation as well as what VRM class would apply to this area.

Table 2.1 on page 2-9 identified "Butler Wash East of Comb Ridge." Unlike the other potential CSMAs, this area is not mapped and no acreage figures are provided. Please clarify whether this CSMA is mapped as part of the Comb Ridge CSMA and how large the Butler Wash East of Comb Ridge CSMA would be.

At several places in the RMP/DEIS, BLM notes that preservation-related management decisions would avoid cultural resource impacts by incorporating a buffer around sensitive areas. *See e.g.* RMP/DEIS at 4-284 and 4-385. Please clarify what resources buffers are intended to protect. For example, while some resources are clearly visible to casual observer, some resources, especially sites that have not been excavated or previously disturbed, are

more subtle in appearance. We are concerned that buffered areas could inadvertently call attention to undisturbed sensitive resources.

Management prescriptions for CSMAs apply varying management practices to address issues involving domestic pets, often including closure. Multiple management scenarios increase the risk that visitors may not understand changing requirements and complicate enforcement. Where resource impacts dictate, closures appear appropriate. However, where less restrictive means adequately protect sensitive resources, we encourage BLM to manage CSMAs, SRMAs, and other areas requiring special requirements for pet management as proposed under the Preferred Alternative for the Cedar Mesa Cultural SRMA. *See* RMP/DEIS at p. 2-25.

Social, Economic, and Recreation Impacts:

Page 3-113 provides sale value and royalty value for oil and gas produced within the project area. The reported royalty payments for oil exceed the sale value by more than one million dollars. Please verify these numbers, and if they are correct, explain this apparent anomaly.

Chapter 3 identifies the acreage within each ROS category. It is unclear whether ROS classifications are carried forward as part of the action alternatives. If so, it is unclear whether ROS classification will change by alternative. If ROS classifications are carried forward as written, some of the management prescriptions appear inconsistent with the associated ROS classification.

Page 2-23 notes that recreation use of SRMAs could require permits and payment of fees. Several of the proposed SRMAs are quite large and completely surround sections of state land. Please clarify whether the BLM intends to require permits and payment of fees in order to travel across SRMAs where the intended destination is on state lands. Please also clarify how BLM intends to manage non-recreational use of SRMAs and non-BLM inholdings within SRMAs.

Timing Limitations:

The Draft RMP/DEIS for both the Kanab and Richfield field offices assess cumulative timing limitations and their impact on oil and gas exploration and development. For each alternative, the field offices classified all BLM administered lands into one of seven categories: Standard lease terms, controlled surface use, cumulative timing limits less than three months in duration, cumulative timing limits between three and six months in duration, cumulative timing limits between six and nine months in duration, areas subject to NSO stipulations, and areas unavailable for leasing. For each alternative, the field offices quantified the percentage of lands within each of these six categories and prepared maps graphically depicting the locations of areas within each category. The field offices also compared lands within each of these six categories against oil and gas potential to assess each alternative's overall impact on oil and gas leasing and development. This type of analysis

provides a highly valuable assessment of the cumulative impacts resulting from multiple concurrent management requirements. We strongly encourage BLM to complete a similar analysis as part of the Monticello RMP/EIS and for all other RMPs within the State of Utah.

Mapping:

The state recognizes the tremendous effort that went into mapping, and the difficulties involved in displaying large amounts of complex spatial information across a broad landscape. However, given the scale of available mapping, it is often difficult to reconcile interactions between management prescriptions. For instance, it is not always clear whether surface disturbing activities are consistent with visual quality objectives. We encourage BLM to carefully review and consider interactions between management stipulations as it formulates the Final RMP. Incompatible requirements should be eliminated and mapping detail should be improved.

Parks and Recreation:

Utah's Division of State Parks prefers the VRM Class I and oil and gas - no surface occupancy stipulations for the Chicken Corner/Gooseneck area of the Shafer Basin and for all of Lockhart Basin. This would help to protect the scenic resources of Utah's most spectacular state park, and the views from one of America's most wild and beautiful national parks. It would also continue the land use designations as outlined in the Preferred Alternative of the adjacent BLM Moab Field Office Draft RMP/EIS.

While Alternative C protects the viewshed for the Goosenecks of the San Juan River as viewed from Goosenecks State Park, the area surrounding the park is open to mineral disposal and oil and gas leasing. Specifically, the RMP/EIS identifies the lands around Goosenecks State Park as VRM Class III, open to oil and gas leasing with standard stipulations, and open to mineral material disposal. To protect the viewshed in the area surrounding Goosenecks State Park, Utah State Parks recommends changing the VRM from Class III to Class II, the oils and gas leasing to NSO, and close the area to mineral material disposal.

OHV Management

OHV use around camping areas and trailheads:

A significant problem facing all managers of public lands is the intense and indiscriminate OHV use around dispersed camp areas and some trailheads. Enforcing closures in these areas is very difficult. A model for managing this type of use exists on the Manti-La Sal National Forest in Lake Canyon. Designated training trails offer a significant length of sustainable trail within a confined area that provide the experience many riders are seeking. Off-trail riding has become almost non-existent since these trails were put in place. Some provisions for addressing this issue have been mentioned in Appendix 14.

OHV rights-of-way across SITLA properties:

Many designated OHV routes cross properties owned by SITLA. To avoid having these routes closed in the future by the sale of these lands, BLM should continue to purchase rights-of-way to be placed in public ownership. Programs and funding are in place to accomplish this goal. The RMP should recognize this opportunity.

Routes within areas closed to OHV travel: (Map 51 - OHV and Travel Plan - Alternative C):

It is unclear in some cases as to whether or not routes shown in brown within the closed areas area are open or closed. We recommend that all of these routes remain open and that Map 51 and its legend be modified to reflect this premise.

Piute Pass OHV Trail:

The section of this trail that passes by the "Chocolate Drop" in Sections 35 and 36, T. 36 S., R.14 E., and Sections 1 and 2, T. 37 S., R. 14 E., is closed in the plan. This section is critical to the integrity of the signed and mapped trail and should be left open to OHV travel. Part of this section passes through SITLA property. Rights-of-way should be acquired to ensure continued public access by OHVs.

Provisions for preserving and completing OHV trail systems:

The OHV users in the Monticello/Blanding area have worked diligently to identify and preserve many loop trails on public lands such as Bridger Jack, Jacob's Chair, Piute Pass and others. They have also begun the process of identifying a large loop trail around the county called the Canyon Rim Riders Trail. Utah State Parks would like to see these trails left open for continued use and would like to see the opportunities preserved to complete these trails where there may be missing sections. We believe this can be done while respecting other resources. With careful planning and management, these trail systems provide an opportunity for responsible OHV use in the planning area and for fulfilling the obligation to accommodate growing numbers of OHV users.

Options for dealing with adverse impacts of OHVs:

Under Management Common to All Action Alternatives (page 2-54), closures and restrictions are the options listed for dealing with situations where OHVs are causing considerable adverse impacts. The state believes mitigation should be the first option considered and applied where appropriate. Mitigation means avoiding conflicts between users, minimizing unavoidable conflicts, and compensatory mitigation for impacts that cannot be avoided. This is especially important where routes in questions are key links in established trail systems.

Water Rights and Resources:

Table ES 1 - OHV Categories by Alternative:

All alternatives will restrict off-highway vehicle access to designated roads. In determining these designated roads, BLM should ensure that access to remote irrigation facilities like diversions, gates, and canals are preserved in order to allow local irrigators to maintain and operate these facilities.

Table 3.50 - Individual Eligible Wild and Scenic River(s) Segments:

According to the draft RMP/EIS, 12 river segments totaling approximately 93 miles on six rivers have been found to be eligible for Wild and Scenic River designation. These segments will be managed to preserve their wild and scenic character until such time as their suitability is determined; and suitability determinations will be made in the Record of Decision for the RMP. Some of these segments are located on rivers or streams below irrigation diversions that impact water flows. In determining suitability, the rights of irrigators to divert flow from these rivers and streams needs to be fully protected and considered.

Map 46 - Wild and Scenic Rivers:

This map highlights ten areas that contain a potential dam location. However, no mention of these potential dams could be found in the text, nor was their mention of any special management prescriptions that would accommodate their potential construction in the future. The ability to impound and store surface water is important to many communities within the planning area. Not only is surface water used for agricultural irrigation, it makes up a significant part of the drinking water supply of these communities. Although it is assumed that the potential to construct dams in these areas has been preserved in the RMP, it is hard to tell from the maps and text provided whether or not this is the case. BLM should add language to appropriate sections which pertain to these sites that make their potential for development clear.

Visual Resource Management:

BLM's Information Bulletin 98-135 discusses the use of the Visual Resource Management system within the land use planning efforts of the BLM. The IB indicates that "VRM should not be used as a method to preclude all other resource development." Instead, VRM and visual values should be considered in the decision making process along with all other resource needs. The IB also indicates the VRM Contrast Rating Process "should not be viewed as a means to preclude development, but rather as a design tool to assist management in the minimization of potential visual impacts." Further, BLM's Manual, Section 8400, discusses the use of VRM in the Resource Management Plan Process. Section 8431.06 states the approved VRM objectives for each RMP "shall result from, and conform with, the resource allocation decisions" made in the RMPs. Finally, BLM's Planning Handbook, Section H-8410-1 discusses the use of VRM inventory classes. The section states "inventory

classes are informational in nature" and "do not establish management direction and should not be used as a basis for constraining or limiting surface disturbing activities . . .The assignment of visual management classes is ultimately based on the management decisions made in the RMPs." The state objects if the Draft RMP does not make information supporting the VRM inventory class determinations proposed by the BLM available for review. The state also objects if the rationale for each VRM management class is not presented, nor is the impact on resource uses fully disclosed in the analysis of impacts. The state has concerns that the BLM's identification of VRM inventory classes has led to a self-effectuating class protection scheme, rather than a source of information to be considered within the proposed resource use allocation schemes within each of the Draft's alternatives.

Wildlife Resources:

Mule Deer and Elk:

Large expanses of the Monticello RMP Planning Area (PA) are utilized, to varying degrees, by wintering wildlife, especially mule deer and elk. During normal winters, these animals migrate from the high country down to lower elevations where they spend most of the winter in sagebrush parks and scattered pinion-juniper woodlands. During these normal winters, their locations on these winter ranges are fairly predictable, and wildlife biologists have observed them in these areas for years. However, during unusually cold winters or winters with unusually deep snows or other extreme circumstances, wintering animals are pushed into areas which they may not use during a normal winter. For this reason, UDWR's classification of crucial winter range includes areas of typical and unusual winter use of mule deer and elk, as both winter ranges are ultimately necessary for long term survival. The UDWR's crucial wildlife habitat data are based on more than 20 years of data collection and wildlife observations by field biologists. These data are available to the public on the UDWR web site: (http://dwrcdc.nr.utah.gov/ucdc/DownloadGIS/disclaim.htm) and should be considered under all RMP alternatives. These data reflect inventoried conditions and professional opinion, and, as such, should remain constant under all alternatives.

During this RMP planning process, UDWR biologists have met with BLM personnel on several occasions to discuss the importance of UDWR crucial winter range for mule deer and elk. The Preferred Alternative in this RMP reflects a reduction of 100,000 acres that UDWR's data clearly shows as mule deer and elk winter range. The state requests that the BLM not alter habitat designations from alternative to alternative, as habitats are defined based on wildlife inventories and may be refined or altered by UDWR in the future as conditions require. The proper description of crucial winter habitats should occur regardless of alternative. The alternatives should then describe different levels of impact to these habitats.

Special Status Species:

The Monticello RMP should be consistent with the newly developed Utah Wildlife Action Plan (UWAP). The UWAP describes how species of concern will be managed in the

State of Utah. These species should be included in the RMP where special status species are discussed. The UWAP also describes priority habitat types in Utah that support most of Utah's sensitive species. The BLM was a cooperator during the development of the UWAP and by Executive Order 13352, Facilitation of Cooperative Conservation, should acknowledge this plan as the guideline for sensitive species management in the State of Utah. UDWR would like to see the following issues addressed in the Monticello RMP:

Long-billed curlew

This is a Utah Species of Concern (Tier II in UWAP). Strong evidence exists that this species nests and has nested for many years on BLM ownership within the Monticello PA. Buffers for oil and gas development around nesting areas are appropriate. Travel management as proposed in Alternative A would have a significant negative impact on nesting by this species. Alternative C is acceptable if the BLM makes a strong commitment to enforcement of off highway vehicle (OHV) use. UDWR has no objection to livestock permittees continuing current patterns of OHV use to maintain fences, water supplies etc. because curlews have persisted under this regime in the past.

Spotted ground squirrel

This is a Tier III species in the UWAP, *i.e.*: (1) The species lives in at-risk habitat, (2) has declining numbers, or (3) there is a critical need for more information to determine its status. The last condition applies to this species, which has only been detected in Utah in San Juan County and may be extirpated from Utah. Surveys for this species before any surface disturbing activity in grasslands in the Monticello area would be beneficial. UDWR intends to investigate the status of this species during the next several years and would welcome mention of cooperation from the BLM in the RMP.

Stephens' woodrat

This is a Tier III species in the UWAP. The Stephens' woodrat is reported only from Devil's Canyon and one other location in Utah, although it may be more widespread. UDWR intends to investigate the status of this species during the next several years and would welcome mention of cooperation from the BLM in the RMP.

Many-lined skink

This is a Tier III species in the UWAP. Considered possibly extirpated from Utah, it was recently found to exist in the Devil's Canyon area.

Acorn woodpecker

Devil's Canyon is the only known nesting area for this species in Utah. This species is so little known in the state that it was not mentioned in the UWAP. Devil's Canyon appears to be a unique habitat with high biodiversity and deserves special consideration.

The RMP contains inadequate detail under Alternative C that explains how threats identified in the UWAP will be addressed for several other species. UDWR recommends incorporating the suggestions below into Alternative C:

Gunnison's prairie-dog

We encourage the BLM not to permit the use of toxicants to control prairie dogs on rangelands except within 100 m of irrigated fields and pastures.

Raptors

UDWR supports the restriction of dispersed camping in the Indian Creek SRMA (Special Recreation Management Area). Dispersed camping may negatively impact nesting of Coopers hawks and survival of fledged juveniles of cliff-nesting raptors.

Yellow-billed cuckoo and southwestern willow flycatcher

Nesting by western yellow-billed cuckoos probably occurs periodically along some reaches of the San Juan River. In addition, willow flycatchers frequently use the riparian areas pre- and post- nesting, and recovery of the species would benefit from the establishment of a nesting population along its banks. A commitment should be made in the RMP to locate designated campsites between Montezuma Creek and Bluff so that riparian wildfires are less likely to be started by campfires.

Silky pocket mouse

Little is known about this Tier II species. UDWR intends to investigate the status of this species during the next several years and would welcome mention of cooperation from the BLM in the RMP.

Non-Native Plants:

In Utah's arid climate, native plants do not compete well with established, undesirable non-native invasive plants such as cheatgrass (*Bromus tectorum*). Desirable, non-invasive non-natives with similar endemism have evolved competitive traits that allow them to hold the aggressive, undesirable invasive species in check. To ignore this and disallow a careful but at times necessary use of non-native plants is to discount a key management tool that can actually help control non-native invasive weed species. Through much experience, UDWR believes there are situations and circumstances where non-native plants may be the only tool to manage non-native weeds, because the desirable native species either cannot compete with the Eurasian exotics, or are essentially unavailable in quantity. Because of these reasons, UDWR believes that desirable non-native plants should never be categorically excluded from use on western rangelands. We encourage the BLM not to exclude the use of non-native plants in the Monticello RMP.

Mining and Energy Development:

The RMP should mention or reference some guidelines that will be used to mitigate impacts of certain activities:

Uranium mining

Maps in the RMP show a high potential for uranium mining in much of the Monticello PA. Voluntary mitigation efforts will be inadequate to address the impacts to wildlife from surface mining, radon gas from tailings, and possible damage to surface waters from failed leachate or tailings ponds. The BLM needs to address how to avoid, reduce, and mitigate impacts from uranium mining on wildlife and their habitat in this RMP.

Wind energy development

While the RMP addresses wind energy development and impacts on Gunnison sage-grouse, we have some concern about smaller areas, such as canyon mouths, that may be conducive for wind energy development. Depending on the area, development could cause significant mortality to bats and birds. Should development be proposed, during the NEPA process, the BLM should refer to the US Fish and Wildlife Service (USFWS) document Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines and consult with UDWR and USFWS about site-specific needs for pre- and post-construction monitoring.

Mineral development

We recommend that the BLM develop a long-term plan for mineral extraction and wildlife mitigation within the area covered by this RMP. Moreover, specific guidelines for mineral development should be explicitly stated or cited. We recommend that this RMP require adequate mitigation (including off-site mitigation where appropriate) in all mineral leases that result in long-term impacts to crucial wildlife habitats. We also request that this RMP consider impacts to hunting and fishing from energy development. These important recreational activities are vital to the Utah economy, with an overall economic contribution of more than $1.23 billion annually. Additional information regarding the impacts of hunting and fishing on the Utah economy is available from UDWR upon request.

ATTACHMENT B

ATTACHMENT B

Utah Public Lands Study – Key Social Survey Findings for Grand and San Juan Counties

A statewide social survey was conducted by Utah State University in 2007 to assess the ways in which Utah residents use and value public land resources, and their views about public land management. Random samples of residential households were selected in each of the state's 29 counties. Sampled households were contacted by mail, and a randomly-selected adult from the household was asked to participate in the survey. Self-completion questionnaires were distributed to potential survey participants using a multiple-wave survey administration procedure. The discussion that follows is focused on key survey results obtained for Grand County (n = 146 survey responses) and for San Juan County (n = 124 survey responses).

Economic Linkages to Public Lands

One major focus of the survey questionnaire involved assessment of the various ways in which Utahans' may engage in economic activities that are linked directly or indirectly to public land resources in the state.

Permit-Based Economic Activities

As indicated in Table 1, only a minority of survey respondents in either Grand or San Juan Counties reported that a portion of their household income is directly linked to activities that involve permitted uses of lands or resources administered by the U.S. Forest Service, the Bureau of Land Management (BLM), other federal agencies, or the State of Utah. In both counties permit-based economic activities on public lands were more commonly linked to lands administered by the BLM than lands administered by other agencies. In addition, the percentage of respondents indicating that some portion of their household incomes is derived from such permit-based activities was uniformly higher for each of the agency categories in San Juan County than was the case in Grand County.

Table 1. Percentage of survey respondents reporting that a portion of household income is directly linked to permitted use of public lands or resources.

Agency	Grand County	San Juan County
Forest Service	4.1%	13.9%
BLM	11.0%	18.9%
Other federal agency	8.2%	7.4%
State of Utah	6.2%	11.5%
Number of cases	146	124

As indicated in Table 2, the percentage of respondents reporting these types of permit-based economic linkages to public lands who indicated that 25% or more of their total household income is derived from those activities was highest among Grand County respondents who reported use of BLM, other federal agency, and State-administered lands, and highest among San Juan County respondents who reported use of lands administered by federal agencies other than the Forest Service or BLM, or of lands administered by the State of Utah.

Table 2. Percentage of survey respondents reporting permit-based economic activities on public lands who indicated that 25% or more of their household income is derived from those activities.

Agency	Grand County	San Juan County
Forest Service	16.7%	23.5%
BLM	50.0%	29.2%
Other federal agency	53.8%	55.6%
State of Utah	45.5%	42.9%

Household Participation in Selected Commercial Activities

The next series of questions asked respondents to indicate whether they or members of their households participate in any of a number of commercial activities that, while commonly associated with public land use, can involve the use of either public or private lands. Results summarized in Table 3 indicate that for any of these activities only a minority of survey respondents in either Grand County or San Juan County reported participation. Among Grand County respondents, the activities reported most frequently were operation of an outfitting or guiding business (9.7% of respondents), other miscellaneous commercial activities (5.2%), and mining of coal, uranium or other minerals (4.9%). In San Juan County participation was reported most frequently for livestock grazing and related work (20.2% of respondents), commercial firewood cutting (17.6%), logging and other timber-related work (11.8%), mining of coal, uranium or other minerals (10.1%), and oil and gas exploration or development (9.2%). On balance, these response patterns indicate that there is a substantially higher level of engagement in nearly all of these types of resource-based commercial activities among residents of San Juan County than is the case in Grand County.

Table 3. Percentage of survey respondents reporting that they or members of their households participate in selected resource-based commercial activities, on either public or private lands.

Economic Activity	Grand County	San Juan County
Livestock grazing and related work	2.8%	20.2%
Commercial firewood cutting	1.4%	17.6%
Logging, post & pole cutting, or other timber-related work	1.4%	11.8%
Mining of coal, uranium or other solid minerals	4.9%	8.5%
Mining of sand, gravel, or other construction materials	2.8%	10.1%
Oil and gas exploration and development	2.8%	9.2%
Operating an outfitting or guiding business	9.7%	6.8%
Film making/commercial Photography	3.5%	5.9%
Other commercial activities	5.2%	3.5%

Household Involvement in Businesses Linked to Recreation/Tourism

Survey respondents were also asked whether they or any member of their household operates or works at a business linked to recreation or tourism activity that is influenced by the presence of public lands and resources. Over one-third (38.5%) of Grand County respondents and over one-fourth (26.7%) of San Juan County respondents said "yes" to this question. When asked to assess how important activities and uses linked to public lands are to the success of this business, nearly two thirds (63.6%) of Grand County respondents and over one-half (53.1%) of San Juan County respondents who reported involvement in such businesses said that the influence of public lands is "extremely important."

Household Involvement in Businesses Linked to Commodity Production

A similar question asked about the involvement of survey participants and members of their households in business that provide services and supplies to farming or ranching operations, logging firms, or other commercial enterprises that use or process natural resources located on public lands. The percentage of respondents reporting participation by a household member in such businesses was considerably lower in Grand County (6.9%) than in San Juan County (15.7%).

Ownership of Property or Assets With Values Influenced by Nearby Public Lands

When asked whether they own land, buildings, or other assets that they believe have a monetary value that is significantly influenced by the presence and condition of nearby public lands, 55.2% of Grand County respondents and 40% of San Juan County respondents said "yes." Those who did perceive the existence of such a relationship were then asked to identify specific types of assets that they own and that they believe have a value influenced by the close proximity of public lands. Respondents in both counties most frequently cited their residential property, (48.6% in Grand County, 27.4% in San Juan County). The only other types of asset identified by more than 10% of respondents in either county were undeveloped non-agricultural land (12.1% of respondents in San Juan County) and agricultural land (12.7% of respondents in San Juan County).

Perceived Importance of Public Lands for Overall Quality of Life

Survey participants were also asked to report how important they think fifteen different types of public land resources and resource uses are for the overall quality of life experienced by people living in their communities. Table 4 summarizes response patterns to this series of questions for Grand and San Juan Counties, with a focus on the percentage of respondents from each county who indicated that they consider a particular type of resource use to be "very important" for local quality of life.

In Grand County six of the fifteen types of public land resource use presented in this question were considered "very important" by fewer than one-half of respondents (grazing of livestock,

Table 4. Percentage of survey respondents indicating that selected public land resource uses are "very important" to the overall quality of life in their community.

Resource Use	Grand County	San Juan County
Grazing of livestock on public lands	34.6%	74.4%
Water resources used to irrigate crops and pastures	64.0%	89.8%
Water resources used to supply homes and businesses	83.6%	94.1%
Water resources that provide important fish/wildlife habitat	82.0%	76.9%
Energy resources such as oil, gas, coal or uranium	48.2%	72.0%
Sand, gravel or other minerals used in building and construction industries	28.8%	53.0%
Forested areas that provide timber used by logging operations and lumber mills	21.3%	33.0%
Areas where trees or other vegetation provide important wildlife habitat	73.9%	74.4%
Areas that attract tourism and recreational activity	78.8%	61.0%
Opportunities to enjoy off-road vehicles, snowmobiling, or other motorized recreation	62.1%	70.3%
Opportunities to enjoy hiking, backpacking, cross-country skiing, horseback riding, or other types of non-motorized recreation	74.3%	65.3%
Opportunities to hunt for wild game	41.3%	66.6%
Opportunities to fish in area lakes, streams and rivers	47.9%	58.5%
Undeveloped landscapes where motorized access and resource development are restricted	56.9%	30.7%
Areas managed to maintain biodiversity and protect habitat for sensitive or important plants or wildlife	54.4%	28.1%

energy resource development, sand/gravel or other construction-related mineral development, timber production, opportunities to hunt, and opportunities to fish). At the same time, over three-fourths of Grand County respondents considered water resources used to supply homes and businesses, water resources used to supply fish and wildlife habitat, and the presence of areas that attract tourism and recreation activity to be "very important" to the local quality of life.

In San Juan County only three of these resource uses were considered "very important" by fewer than one-half of respondents (timber production, undeveloped landscapes where motorized access and resource development are restricted, and areas managed to maintain biodiversity and to protect habitat). Conversely, three resource uses -- water resources used to irrigate crops and pastures, water resources used to supply homes and businesses, and water resources used to provide important fish and wildlife habitat -- were considered "very important" to the local quality of life by more than three-fourths of San Juan County respondents.

Recreational Uses of Public Lands

Survey participants were also asked to report whether they had participated in any of a broad range of outdoor recreation activities and other non-commodity use activities on Utah public lands during the prior twelve months. Results from this series of questions are reported in Table 5 and Table 6. These findings clearly indicate that there is widespread participation in many of these public land activities among residents of both Grand County and San Juan County.

Table 5 reports the extent of reported participation in thirty different outdoor recreation activities. Among survey participants living in Grand County, more than one-half reported participation in camping, picnicking, day hiking, wildlife viewing, visiting historical sites, 4-wheel driving, and driving for pleasure/sightseeing on public lands during the preceding twelve months. In San Juan County over half of respondents reported that they had participated in camping, picnicking, day hiking, wildlife viewing, hunting, fishing, visiting historical sites, , ATV riding, 4-wheel driving, and driving for pleasure/sightseeing.

Responses to a question focusing on participation in a variety of non-commodity use activities on public lands are summarized in Table 6. Among this list of activities, Grand County respondents were most likely to report that they participate in collection of rocks for home landscaping and collecting fossils, rocks or other minerals from public land areas. In San Juan County, respondents most frequently reported that they collect firewood for home use, collect rocks for home landscaping, and gather pinyon nuts from public lands.

Respondents were also asked to identify the one or two activities from the lists presented in these questions that they participate in most often, and to provide detail on where they engage in those activities. Among Grand County respondents the first of these activities listed by respondents most often involved day hiking (27.8% of responses) or camping (18.8% of responses). In San Juan County the first listed activity most often involved ATV riding (21.2% of responses), camping (13.6%), day hiking (12.7%) or hunting (11.9%). When asked to indicate where they participate in the first-listed of their "most frequently pursued" activities, 81.8% of Grand County respondents and 97.5% of San Juan County residents identified a location within the county where they live.

Table 5. Percentage of survey respondents reporting participation in selected recreation activities on Utah public lands during the past twelve months.

Activity	Grand County	San Juan County
Camping	67.4%	72.7%
Picnicking	77.1%	84.4%
Backpacking	30.4%	29.6%
Day hiking	72.4%	70.0%
Bird watching	35.8%	37.2%
Wildlife viewing	67.4%	80.2%
Nature photography	42.3%	41.2%
Canoeing/kayaking	23.5%	10.8%
River rafting	33.1%	9.1%
Motor boating	19.4%	20.4%
Jet skiing	5.9%	8.2%
Swimming	39.0%	36.3%
Rock climbing	18.4%	21.4%
Mountain climbing	22.2%	22.8%
Hang gliding	0.0%	0.0%
Mountain bike riding	33.3%	17.7%
Hunting	25.0%	55.1%
Fishing	43.3%	50.4%
Horseback riding	15.6%	33.0%
Orienteering/geo-caching	7.5%	15.7%
Rock hounding	39.3%	33.6%
Visiting historical sites	62.9%	68.9%
Resort skiing/snowboarding	7.5%	3.7%
Backcountry skiing/snowboarding	19.1%	4.6%
Snowshoeing	9.6%	4.5%
Snowmobiling	7.4%	8.9%
ATV riding	29.5%	65.0%
Dirt bike riding	16.5%	20.4%
4-wheel driving/jeeping	51.1%	60.2%
Sightseeing/pleasure driving	83.2%	87.9%

Table 6. Percentage of survey respondents reporting participation in selected non-commodity use activities on Utah public lands during the past twelve months.

Activity	Grand County	San Juan County
Collecting firewood for home use	25.9%	47.5%
Cutting Christmas trees	19.9%	29.4%
Collecting material for craft projects	22.0%	29.1%
Collecting rocks for home landscaping	42.7%	46.6%
Collecting plants for home landscaping	12.1%	20.0%
Gathering wild mushrooms	7.9%	4.5%
Gathering pinyon nuts	13.6%	47.5%
Gathering berries, herbs or wild foods	15.0%	13.4%
Collecting fossils, rocks or minerals	34.7%	28.0%

Attitudes and Preferences Regarding Public Land Management

Two similar sets of survey questions focused on respondents' attitudes and preferences regarding the extent to which various natural resource use activities or management practices should be reduced or increased by those responsible for managing public lands in Utah. Response patterns to these questions are summarized in Table 7 and Table 8.

The data presented in Table 7 indicate that Grand County respondents were considerably more likely to prefer an increase rather than a decrease in protection of important fish and wildlife habitat, protection of endangered species, use of controlled burns to improve ecological conditions, thinning of forested areas to reduce wildfire risk, designation of wild and scenic rivers, and development of water storage and delivery systems on Utah public lands. They were also more likely to prefer a reduction in timber harvest levels and in livestock grazing levels. On the other hand, attitudes were more evenly split between preferences for reducing and preferences for increasing mineral exploration/extraction and for designation of wilderness areas. Among San Juan County residents respondents were more likely to prefer an increase rather than a decrease in mineral exploration/extraction, timber harvest, oil and gas development, protection of fish and wildlife habitat, use of controlled burns to improve ecological conditions, livestock grazing, and development of water storage and delivery systems. They also expressed a strong preference for a reduction in the designation of wilderness areas, and were more likely to prefer a reduction as opposed to an increase in designation of wild and scenic rivers.

Results summarized in Table 8 indicate that Grand County respondents were more likely to prefer an increase rather than a reduction in permitting of commercial guiding or outfitter services, provision of road access to recreation areas, provision of hunting opportunities, development of trails for non-motorized recreation, regulations that restrict motorized vehicles to designated trails, and regulations to limit noise and emissions from snowmobiles and ATVs. More evenly mixed attitudes were evident with respect to development of trails for off-highway motorized recreation, and for development of visitor facilities to increase tourism. In San Juan County, respondents were far more likely to prefer an increase rather than a decrease in provision of road access to recreation areas, provision of hunting opportunities, development of trails for off-highway motorized recreation, and development of trails for non-motorized recreation.

Table 7. Survey respondents' attitudes regarding the extent to which various activities occurring on Utah public land should be reduced or increased.*

Type of use/activity	Grand County Reduce	Grand County Increase	San Juan County Reduce	San Juan County Increase
Mineral exploration/extraction	28.5%	37.2%	17.2%	58.7%
Timber harvest	37.4%	15.2%	15.8%	47.4%
Designation of wilderness areas	34.3%	33.6%	63.9%	15.1%
Exploration for/development of oil and gas resources	33.8%	41.2%	15.5%	53.5%
Protection of important fish and wildlife habitat	6.6%	61.4%	13.7%	41.9%
Protection of endangered species	17.4%	50.7%	30.8%	26.5%
Use of controlled burns to improve ecological conditions	13.8%	48.7%	13.4%	46.4%
Thinning of forested areas to reduce wildfire risk	15.1%	52.3%	5.3%	60.2%
Livestock grazing	36.2%	23.9%	13.8%	39.6%
Designation of wild and scenic rivers	18.4%	40.4%	32.1%	17.5%
Developing water storage and delivery systems to meet needs of nearby communities	11.9%	63.5%	1.7%	86.4%

* Original response categories were "major reduction" and "moderate reduction" (combined to create "reduce") and "major increase" and "minor increase" (combined to create "increase"). "Stay about the same" responses not reported here.

Table 8. Survey respondents' attitudes regarding the extent to which the emphasis placed on various activities occurring on Utah public land should be reduced or increased by public land managers.*

Type of use/activity	Grand County Reduce	Grand County Increase	San Juan County Reduce	San Juan County Increase
Permitting of commercial guiding or outfitter services	12.8%	21.2%	22.5%	21.6%
Providing road access to recreation areas	19.7%	33.1%	11.7%	61.7%
Providing hunting opportunities	17.9%	27.2%	10.2%	50.8%
Developing trails for off-highway motorized recreation	28.4%	34.1%	15.3%	61.0%
Developing trails for hiking, biking, and other non-motorized recreation	7.1%	53.9%	12.0%	46.1%
Regulations that require motorized vehicles to stay on designated trails	10.6%	62.0%	26.3%	37.3%
Regulations that limit levels of noise and emissions from snowmobiles and ATVs	10.1%	59.0%	33.3%	26.5%
Developing visitor facilities to increase tourism	21.4%	35.0%	20.9%	32.2%

* Original response categories were "major reduction" and "moderate reduction" (combined to create "reduce") and "major increase" and "minor increase" (combined to create "increase"). "Stay about the same" responses not reported here.

ATTACHMENT C

ATTACHMENT C

The Structure and Economic Impact of Utah's Oil and Gas Exploration and Production Industry Phase I - The Uinta Basin

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well in 1962. Natural gas production per gas well steadily declined to 67 MMCF per well in 2000 before rising to 84 MMCF per well in 2006. Similarly, crude oil production per oil well peaked at 57,330 barrels per well in 1959 and dropped to 6,727 barrels per well in 2003. Crude oil production per well in Utah was 7,308 barrels during 2006.

During 2006, 129 different operating companies reported crude oil and natural gas production to the Utah Division of Oil, Gas and Mining. Production occurred in 11 of Utah's 29 counties. Duchesne County had the highest oil production with 6,401,299 barrels while Uintah County led natural gas production with gross withdrawals of 203,522,421 MCF.

Six different areas in Utah currently have significant production of oil or natural gas. These areas are defined by geology. Additionally, these areas are somewhat isolated from one another economically, especially in terms of the oil and gas exploration and production (E&P) industry. The major oil and gas producing area in Utah is the Uinta Basin in the northeastern part of the state. Vernal is a center of the oil and gas industry in the Uinta Basin with many of the producing, drilling and service companies maintaining offices in the area. Other producing areas in Utah include coalbed methane plays in Carbon and Emery Counties, the Paradox Basin in San Juan County, the Uncompahgre Uplift in Grand County, the Thrust Belt in Summit County and the recently discovered Hingeline in the central part of the state.

The Paradox Basin, Uncompahgre Uplift, and Thrust Belts all extend over state lines to adjacent states. Many of the workers involved in operating wells in these areas are actually employed in other states. Coalbed methane operations in Carbon and Emery Counties and the Hingeline are fairly recent discoveries and an oil service industry has not developed in these areas.

Defining the oil and gas E&P industry is a key element for a study of this type. Economists use the North American Industry Classification System (NAICS) developed by the Office of Management and Budget for classifying industries for reporting employment and earnings. The NAICS codes are divided into 20 major industrial sectors. These major sectors are then further subdivided as necessary.

The NAICS codes have three industrial classifications that directly apply to the oil and gas E&P industry. These are NAICS 211 - Oil and Gas Extraction, NAICS 213111 - Drilling Oil and Gas Wells, and NAICS 213112 - Support Activities for Oil and Gas Operations. For purposes of this study, these three industries are collectively considered the oil and gas E&P industry. Additional information on the NAICS codes for these three industries is available in Section 6.

The following section summarize oil and gas production in Duchesne and Uintah Counties. Also included are economic data for Duchesne and Uintah Counties to place the oil and gas E&P industry in context.

3.1 Uinta Basin

The Uinta Basin in northeastern Utah is the largest oil and gas producing area in the state and a significant producer in the Rocky Mountains. Natural gas was first discovered in economic quantities in the Uinta Basin in 1925 at the Ashley Valley field. In 1949, oil was discovered in the Roosevelt field. Natural gas and crude oil have been produced in the Uinta Basin since then, although production and the accompanying economic impact have varied with prices. The Uinta Basin is currently experiencing a significant economic boom due to increased oil and gas activity. This boom should continue as long as energy prices remain at current or higher levels.

Although the geologic area defined as the Uinta Basin extends into Colorado and includes portions of several other Utah counties (Carbon, Emery, Grand, Wasatch, and Utah), this study focuses on Duchesne and Uintah Counties, Utah. Economic data is released at the county level and almost all of the economic activity associated with E&P activities in the Uinta Basin occurs in these two counties. For this study, the term Uinta Basin refers to Duchesne and Uintah Counties, collectively unless otherwise indicated.

The two counties contain just under five million acres (Table 2), with 54 percent of the land controlled by the federal government. After including land controlled by the state government and Indian lands, only 21.8 percent of the Uinta Basin is privately owned. With such a large portion of the land controlled by the federal government, the oil and gas E&P industry is highly sensitive to changes in federal land management policy. The largest amount of federal land in the Uinta Basin is controlled by the Bureau of Land Management, which is responsible for 32.7 percent of the land in the two counties. An additional 14.6 percent is administered by the U.S. Forest Service. Lesser amounts are controlled by the U.S. Fish and Wildlife Service and the National Park Service.

The majority of the state land in the basin is controlled by the Utah School and Institutional Trust Lands Administration (SITLA). SITLA administers six percent of the land in the two counties. Lesser amounts are controlled by the Utah Division of Wildlife Resources and the Utah Division of State Parks and Recreation. Indian lands make up 16 percent of the Uinta Basin.

Table 2 Land Ownership in the Uinta Basin

	Duchesne County, acres	Uintah County, acres	Uinta Basin Total, acres	Percent of Total
Bureau of Land Management	206,552	1,411,944	1,618,496	32.7
US Forest Service	453,680	269,380	723,060	14.6
National Wildlife Refuge	0	8,975	8,975	0.2
USFS and BLM Wilderness	263,882	0	263,882	5.3
National Park Service	0	50,682	50,682	1.0
Total Federal	924,115	1,740,981	2,665,096	53.9
State Parks	3,723	956	4,679	0.1
State Wildlife Lands	76,206	9,707	85,913	1.7
State Trust Lands	54,357	240,602	294,959	6.0
Total State Lands	134,287	251,264	385,551	7.8
Indian Lands	395,848	423,353	819,201	16.6
Private	614,070	461,646	1,075,716	21.8
Total	2,068,318	2,877,244	4,945,562	100.0

Source: Utah Governor's Office of Planning and Budget

Production of both crude oil and natural gas have increased in recent years in the Uinta Basin (Tables 3-4). From a low of 7.3 million barrels in 2002, crude oil production in the two counties increased to 11.4 million barrels in 2006. Production is rising faster in the Uinta Basin than in Utah as a whole. While crude oil production increased 55.5 percent in the basin from 2002 to 2006, production in the state as a whole increased by 30.2 percent. In 1997, 48.5 percent of the crude oil produced in Utah came out of the basin. By 2006, the amount of the state's crude oil production originating in the Uinta Basin had increased to 63.4 percent.

Table 3 Uinta Basin Crude Oil Production, 1997-2006

	Crude Oil, barrels			
	Duchesne County	Uintah County	Uinta Basin Total	State Total
1997	6,358,598	3,147,423	9,506,021	19,592,548
1998	6,268,634	2,940,615	9,209,249	19,223,542
1999	4,697,532	2,637,875	7,335,407	16,376,521
2000	4,772,096	2,788,908	7,561,004	15,609,030
2001	4,980,167	3,195,205	8,175,372	15,273,926
2002	4,291,457	3,016,376	7,307,833	13,770,860
2003	4,341,306	3,069,047	7,410,353	13,098,424
2004	5,838,429	3,776,762	9,615,191	14,799,208
2005	6,670,272	4,371,478	11,041,750	16,675,302
2006	6,401,299	4,959,425	11,360,724	17,926,580
Percent of State Total, 2006	35.7	27.7	63.4	100.00

Source: Utah Division of Oil, Gas and Mining

The rise in natural gas production has been even more dramatic than that of crude oil. Over the past 10 years, gas production from the basin has steadily grown from 81 BCF in 1997 to 226 BCF in 2006, a 178 percent increase (Table 4). Uintah County has been the site of most of this growth. Production in Uintah County increased by 236 percent from 1997 to 2006, and the county was responsible for 57.1 percent of the natural gas produced in Utah during 2006.

Table 4 Uinta Basin Natural Gas Production (Gross Withdrawals), 1997-2006

	Natural Gas, MCF			
	Duchesne County	Uintah County	Uinta Basin Total	State Total
1997	20,631,221	60,599,426	81,230,647	272,553,774
1998	19,204,848	70,621,273	89,826,121	297,503,246
1999	15,352,521	72,154,481	87,507,002	277,494,312
2000	13,934,444	83,100,193	97,034,637	281,170,016
2001	13,933,698	93,909,207	107,842,905	300,975,578
2002	12,476,159	104,385,705	116,861,864	293,030,004
2003	11,954,655	111,241,438	123,196,093	287,141,238
2004	14,641,315	132,454,516	147,095,831	293,735,994
2005	20,089,535	163,830,925	183,920,460	313,465,305
2006	22,525,615	203,522,421	226,048,036	356,361,028
Percent of State Total, 2006	6.32	57.11	63.43	100.0

Source: Utah Division of Oil, Gas and Mining

The rising production is reflected in increased drilling activity in Duchesne and Uintah Counties (Table 5). From a low of 150 oil and gas wells spudded in the basin during 1999, the number increased to 933 wells spudded in 2006. As with production, drilling activity in Utah is focused in the Uinta Basin During 2006, of a total of 1,056 oil and gas wells spudded in Utah, 88.3 percent were drilled in the Uinta Basin.

Table 5 Wells Spudded in the Uinta Basin, 1997-2006

	Wells Spudded			
	Duchesne County	Uintah County	Uinta Basin Total	State Total
1997	160	154	314	430
1998	123	186	309	430
1999	10	140	150	283
2000	63	289	352	540
2001	74	386	460	627
2002	44	226	270	391
2003	89	333	422	480
2004	166	441	607	659
2005	183	569	752	889
2006	279	654	933	1,057
Percent of State Total, 2006	26.4	61.9	88.3	100.00

Source: Utah Division of Oil, Gas and Mining

While production of both crude oil and natural gas is increasing in the Uinta Basin, this increase must be placed in the context of the total economy for the two counties.

The Uinta Basin had an estimated 2006 population of 43,332, up 6.1 percent from 2002 (Table 6). Major cities included Vernal, with an estimated 2006 population of 8,163, Roosevelt (4,681), Duchesne (1,506) and Naples (1,502). The 2000 Decennial Census determined that 39.3 percent of the population lives in the two urban areas of Vernal and Roosevelt. The remainder of the two counties is not densely enough populated to be considered urban.[2] Although they contained almost 40 percent of the population of the two counties, the two urban areas account for only 0.18 percent of the land area in the Uinta Basin.

Table 6 Uinta Basin Population, 2002-2006

	Population			
	Duchesne County	Uintah County	Uinta Basin Total	State Total
2002	14,856	25,984	40,840	2,358,330
2003	14,698	26,019	40,717	2,413,618
2004	14,933	26,224	41,157	2,469,230
2005	15,237	26,883	42,120	2,547,389
2006	15,585	27,747	43,332	2,615,129

Source: Utah Population Estimates Committee

[2]The Bureau of the Census defines urban areas as census blocks that have a population density of at least 1,000 persons per square mile and surrounding census blocks with a population density of 500 persons per square mile. Adjacent census blocks with a lower population density are also included if they meet additional criteria established by the Bureau of the Census.

The Uinta Basin is benefitting economically from the oil and gas boom; its unemployment rate has consistently been lower than the state average since August 2005. As energy prices have increased, employment in the Uinta Basin has risen, from approximately 14,500 persons in 1997 to over 25,000 persons in mid-2007 (Figure 6). The unemployment rate in the area has declined since the middle of 2002 after reaching a high of 10.1 percent in February 1999.

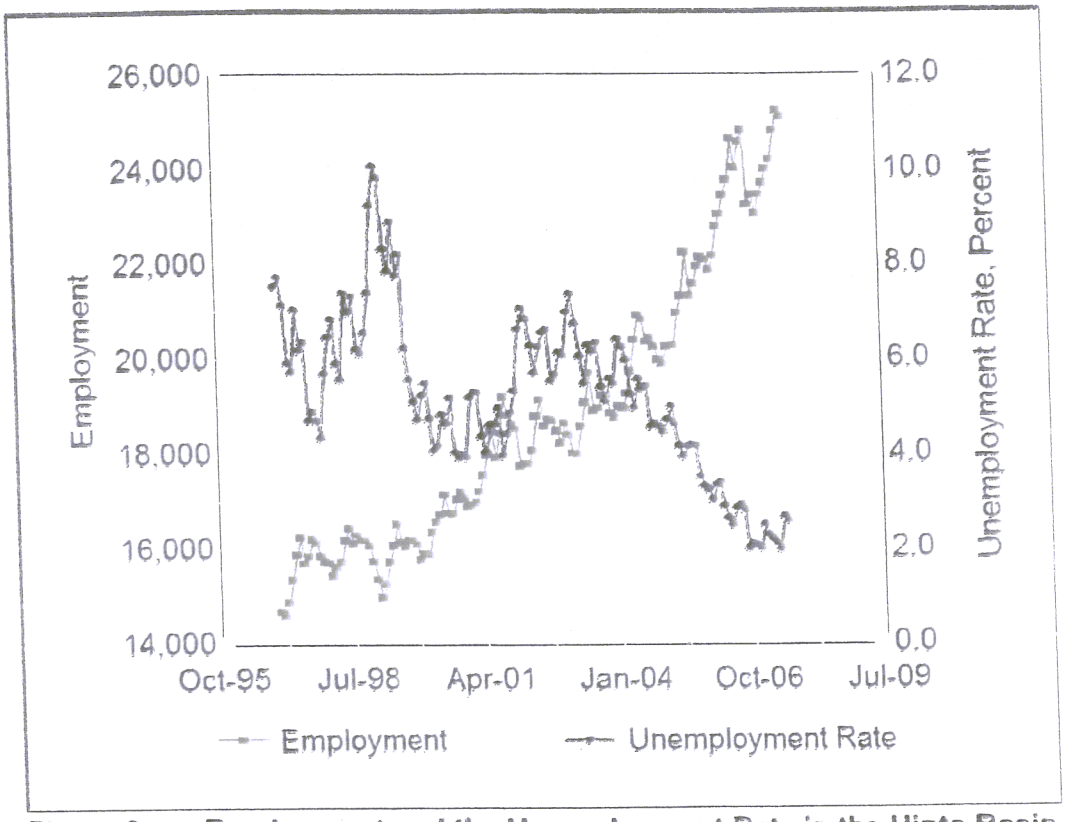

Figure 6 **Employment and the Unemployment Rate in the Uinta Basin**
Source: BLS, Local Area Unemployment Statistics

The industrial structure of the basin is significantly different from that of the state of Utah (Table 7). Mining, which includes oil and gas production, is responsible for over 20 percent of the employment in the Uinta Basin, compared with 0.9 percent of employment in Utah. The Uinta Basin is nearly 25 times more dependent on the mining industry for employment than is Utah as a whole, as indicated by a location quotient of 24.9[3]. While the majority of mining employment in the basin is due to oil and gas production, there are other mining operations present. Significant mining operations in the Uinta Basin other than oil and gas extraction are the SF

[3]Location Quotients are the ratio of an industry's share of employment in a study are, in this case the Uinta Basin, to its share in a reference area, e.g., the state of Utah.

Phosphates Ltd. mine north of Vernal and three gilsonite operations by American Gilsonite, Lexco, Inc., and Ziegler Mineral and Chemical. These other mining operations in the Uinta Basin employ an estimated 270 persons.

Other differences in industrial structure include a much lower reliance on Manufacturing and Educational Services for employment and a higher percentage of employment in Utilities, Transportation, Agriculture, Forestry, Fishing and Hunting, Real Estate and Government. The fairly high location quotient for Utilities, 2.60, is largely due to the presence of the Deseret Power Bonanza Power Plant south of Vernal. Transportation and Warehousing also has a high location quotient of 1.71. Much of the crude oil produced in the Uinta Basin contains a wax that solidifies below 105 F. This results in difficulties in shipping the crude oil to refineries via pipeline so the oil must be sent by tank truck. Government is commonly a significant employer in areas with large amounts of public land due to the presence of federal land-managing agencies.

Industries with low location quotients in the Uinta Basin include Manufacturing and Educational Services. Manufacturing has a location quotient of 0.18, indicating that the basin is only 18 percent as dependent on Manufacturing for employment as is the state of Utah. Similarly, the location quotient for Educational Services is 0.13, suggesting that there are few private educational facilities in the Uinta Basin.

Several major industries have employment data that is nondisclosable for Duchesne or Uintah Counties. This is done to protect individual company data. These industries are Management of Companies and Enterprises (NAICS 55), Administrative and Support Services (NAICS 56), Arts, Entertainment and Recreation (NAICS 71), and Accommodation and Food Services (NAICS 72). Since employment numbers are not available for these industries, location quotients can not be calculated. Data for these industries are included in the total employment figures.

under the Mineral Lands Leasing Act of 1920. This royalty is paid to the Minerals Management Service, an agency within the U.S. Department of Interior. A portion of the federal mineral royalties is returned to the state of origin. Generally, one-half of federal mineral royalties are returned to the states of origin. Royalties from production on Indian lands are returned to the appropriate tribe, not to the state government. Since a large portion of the crude oil production in Utah occurs on Indian lands, especially in Duchesne and San Juan Counties, the amount of crude oil royalty returned to the state government is significantly less than one-half of the amount paid to the Minerals Management Service. The states have full discretion as to the distribution of federal mineral royalties as long as priority is given to areas with economic and/or social impacts from leasing activities. The Minerals Management Service does not release federal mineral royalty data at the county level, but statewide data are available.

Federal mineral royalties due to oil and gas production in Utah have dramatically increased in recent years, to $299 million in 2006, a 228 percent rise from $91 million in 2001 (Table 14). Oil and gas production accounted for 91.3 percent of the royalties paid for mineral production on federal land in Utah during 2006. There was also an additional $103 million paid in bonus and rents on federal mineral leases. These are fees associated with awarding federal mineral leases and maintaining the leases until production is initiated. Table 14 includes royalties due to oil and gas production, but does not include bonus or rent payments for federal oil and gas leases. Of the nearly $300 million paid in federal mineral royalties by the oil and gas industry in Utah, $109 million was returned to the state government.

Table 14 Federal Mineral Royalty Payments and Disbursements for Utah, 2001-2006

	Oil		Natural Gas		Total	
	Royalties	Disbursements	Royalties	Disbursements	Royalties	Disbursements
2001	$32,799,794	$4,392,667	$58,553,527	$26,210,621	$91,353,321	$30,603,288
2002	26,028,911	3,493,794	37,653,050	11,921,373	63,681,961	15,415,167
2003	37,462,357	5,575,810	55,369,036	26,040,706	92,831,293	31,616,515
2004	45,743,590	7,235,629	87,075,857	38,228,494	132,819,447	45,464,122
2005	66,900,212	10,405,687	118,132,687	53,647,636	185,032,900	64,053,323
2006	106,457,298	21,866,066	193,416,183	87,551,457	299,873,481	109,417,522

Note: Years are federal fiscal years. Natural gas includes natural gas liquids from gas processing plants.
Source: Minerals Management Service

In Utah, federal mineral royalties are distributed to several different accounts according to state law (Table 15). The largest recipients of federal mineral royalties in Utah are the Permanent Community Impact Fund and the Department of Transportation. The funds distributed to the Department of Transportation are then distributed to local governments to fund local highways in proportion to the amount of mineral lease money generated by each county. The Permanent Community

Impact Fund makes loans and grants to state agencies and subdivisions of state government impacted by mineral resource development. Unlike the funds administered by the Department of Transportation, which are distributed in proportion to royalties generated in the county, the Permanent Community Impact Fund is distributed by a state-appointed board in response to proposals submitted by local governments. Therefore, the distribution of funds by the Permanent Community Impact Fund to the various counties may vary from the amount of royalty generated. The payments in lieu of taxes cited in Table 15 are not the payments in lieu of taxes made by the federal government for federal land in Utah but are payments made by the state government to counties for lands controlled by the School and Institutional Trust Lands Administration, state Division of Parks and Recreation and the state Division of Wildlife Resources.

Table 15 Distribution of Federal Mineral Royalties in Utah

	Percent
Permanent Community Impact Fund	32.50
State Board of Education	2.25
Utah Geological Survey	2.25
Water Research Laboratory	2.25
Department of Transportation	40.00
Department of Community and Culture	5.00
Payments in Lieu of Taxes	52 cents per acre
Permanent Community Impact Fund	Remainder

Note: The amount paid for Payments in Lieu of Taxes has been adjusted annually since 1994 according to the Consumer Price Index.
Source: Utah State Code, Title 59, Chapter 21.

The School and Institutional Trust Lands Administration (SITLA) controls mineral rights on approximately 4.4 million acres in Utah. These lands area held trust for the public schools in Utah and 11 other beneficiaries and were established at statehood and through land exchanges with the federal government. During 2006, royalties paid for oil and gas extraction on SITLA lands were $82.7 million. This was 51.0 percent of total SITLA revenue for 2006. These funds are not returned to the county of origin, but are placed in a permanent fund managed by the state treasurer on behalf of the public schools as a beneficiary or distributed to the appropriate beneficiary as mandated. Dividends and interest from the Public School Fund are distributed annually to all Utah public schools based on an established formula.

In addition to royalties, there is an oil and gas severance tax in Utah and a oil and gas conservation fee which are levied on all production in the state. The Oil and Gas Severance Tax in placed in the state general fund and the tax rate varies from 3 to 5 percent of the sales price. The Oil and Gas Conservation Fee funds the state Division of Oil, Gas and Mining. The fee is imposed at a rate of 0.2 percent of the value of production.

Both the Oil and Gas Severance Tax and the Oil and Gas Conservation Fee have significantly increased in recent years (Table 16). The Oil and Gas Severance Tax increased by 82 percent from 2001 to 2006 while the Oil and Gas Conservation Fee increased by 102 percent. The drop from 2001 to 2002 was due to the wellhead price of natural gas produced in Utah dropping from $3.52 per MCF in 2001 to $1.99 per MCF in 2002. These data reflect statewide oil and gas operations and are not specific to the Uinta Basin.

Table 16 State Tax Collections Related to Oil and Gas Production, 2001-2006

	Oil and Gas Severance Tax	Oil and Gas Conservation Fee
2001	$39,357,798	$2,748,318
2002	18,893,082	1,710,219
2003	26,745,279	1,943,755
2004	36,659,808	2,696,250
2005	53,484,320	3,631,963
2006	71,513,869	5,560,449

Note: Years are state fiscal years.
Source: Utah State Tax Commission

5.1 Uinta Basin

The largest direct fiscal impacts on the Uinta Basin due to oil and gas operations in the area are property taxes paid by the operating companies and federal mineral royalties distributed to the local governments by the Utah Department of Transportation. The Utah State Tax Commission centrally assesses oil and gas properties using a net present value approach applied to future production. The local county treasurers bill and collect the taxes. Property taxes are levied by numerous units of local government, including county and city governments, school districts, and special service districts.

Property taxes paid on oil and gas properties are a significant portion of total property taxes in the Uinta Basin (Table 16). During 2006, the oil and gas industry paid nearly 40 percent of total property taxes in the two Uinta Basin counties. Table 16 refers to all property taxes paid to various government entities in the two counties, not just the county governments. As prices of crude oil and natural gas have increased in recent years, the net present value of future production has increased. This, coupled with rising production, has resulted in the amount of property taxes paid by the oil and gas industry in the Uinta Basin increasing by nearly four times over the past 10 years, not adjusting for inflation. Oil and gas property taxes have been rising faster in Uintah County than in Duchesne County, reflecting rising natural gas production in the county. Property taxes paid on oil and gas production increased by 440 percent in Uintah County from 1997 to 2006, and by 122 percent in Duchesne County. Given the rising production and expected

continuation of current energy prices, the property taxes paid by the oil and gas production industry in the Uinta Basin should continue to rise into the future.

Table 17 Oil and Gas Property Tax Payments in the Uinta Basin, 1997-2006

	Duchesne County		Uintah County		Uinta Basin Total	
	Oil & Gas Property Tax	Percent of Total Property Tax	Oil & Gas Property Tax	Percent of Total Property Tax	Oil & Gas Property Tax	Percent of Total Property Tax
1997	$2,412,970	27.2	$2,389,667	15.7	$4,802,637	20.0
1998	2,353,888	27.9	2,858,447	18.1	5,212,335	21.5
1999	1,561,466	21.3	2,309,639	15.6	3,871,105	17.5
2000	1,749,689	19.7	2,579,728	16.9	4,329,417	17.9
2001	2,221,385	23.1	3,449,316	20.8	5,670,701	21.7
2002	1,773,249	18.4	4,054,227	22.5	5,827,476	21.1
2003	1,739,101	17.2	4,276,125	21.9	6,015,226	20.3
2004	2,407,040	21.8	5,985,003	25.3	8,392,043	24.2
2005	3,640,044	27.8	8,241,224	33.0	11,881,268	31.2
2006	5,358,661	33.9	12,895,362	41.1	18,254,024	38.7

Source: Utah State Tax Commission, Property Tax Division Annual Reports

The funds generated through federal mineral royalties that are returned to the Uinta Basin through the Utah Department of Transportation are also a significant source of revenue for the local governments. These funds actually exceed the amount of property tax paid by the oil and gas industry. During 2006, Duchesne and Uintah Counties collectively received $30 million dollars in federal mineral royalties returned to them by the Department of Transportation. This was a 296 percent increase over the amount returned in 2001.

Table 18 Federal Mineral Royalties Returned by UDOT to the Uinta Basin, 2001-2006

	Duchesne County	Uintah County	Uinta Basin Total
2001	$789,854	$6,856,410	$7,646,264
2002	718,112	3,031,081	3,749,193
2003	678,705	6,893,486	7,572,192
2004	931,428	11,767,611	12,699,038
2005	1,903,292	16,704,532	18,607,824
2006	2,750,055	27,500,128	30,250,182

Note: Years are state fiscal years.
Source: Utah Department of Transportation

Table 18 includes data on all royalties from federal mineral leases in Utah, not just oil and gas operations. Although there are some other federal mineral leases in the Uinta Basin, notably gilsonite, by far the majority of royalties are due to oil and gas production.

Royalties paid to SITLA due to production of oil and gas in the Uinta Basin rose significantly from 2005 to 2006 (Table 18). In 2005, oil and gas production in the Uinta Basin resulted in $23 million in SITLA royalties. Rising production and prices resulted in a 54 percent increase in 2006, with over $34 million in SITLA royalties paid.

Table 19 Royalties Paid for Production on SITLA Lands in the Uinta Basin, 2005-2006

	Duchesne County	Uintah County	Uinta Basin Total
2005	$2,976,668	$19,990,367	$22,967,035
2006	2,686,706	32,720,101	35,407,575

Note: Years are state fiscal years.
Source: School and Institutional Trust Lands Administration

State personal income taxes as a result of oil and gas E&P activities in the Uinta Basin is estimated at just over $18 million for 2006 (Table 20).

Table 20 Personal State Income Taxes due to Oil and Gas E&P in the Uinta Basin

	Uinta Basin Total
Total Wages due to Oil and Gas E&P, $1,000	$448,246
Personal State Income Taxes, $1,000	18,026

Source: Author's Calculations. Details of the estimation are in Section 6.

6 Technical Notes and Methodology

Industries are classified by economists according to the North American Industry Classification System (NAICS), which was developed by the Office of Management and Budget in cooperation with other federal agencies and foreign governments (Office of Management and Budget, 2002). The NAICS codes replaced the Standard Industrial Classification (SIC) Codes that had been used since the 1930s. This change was prompted by structural changes in the U.S. economy, with the services sector becoming a much larger portion of the economy and more complex than when the SIC codes were developed. In the switch, the 10 major industrial sectors under the SIC codes were replaced with 20 major sectors under the NAICS Codes. Many of the industrial sectors under the SIC codes were split among two or more of the redefined sectors under the NAICS codes, making comparisons difficult. The NAICS codes better explain the structure of the current economy but make time series data difficult to compile.

Under the NAICS system, companies are classified under 20 major industrial categories and the categories are further subdivided as needed. There are three classifications directed related to the oil and gas exploration and production industry.

These are NAICS 211 – Oil and Gas Extraction, NAICS 213111 – Drilling Oil and Gas Wells, and NAICS 213112 – Support Activities for Oil and Gas Operations. These three classifications cover the operating companies, drilling companies, and service companies, respectively. For this study, we are considering them collectively as the oil and gas E&P industry.

Other local businesses and industries benefit from E&P activities. Examples of these are seismic companies, regulatory and environmental consulting firms, consulting geologists, trenching and dirtwork, and utilities providing electricity. Other benefits accrue to local hotels and restaurants as a result of spending by visiting workers. These types of effects are referred to as the indirect and induced impacts. The indirect and induced impacts can be calculated from the value of transactions between the E&P industry and these other businesses using input-output economic models.

6.1 NAICS Codes Related to Oil and Natural Gas Production

For this study, we are considering the following three NAICS classifications collectively as the oil and gas E&P industry. The definitions listed are those developed by the Office of Management and Budget.

NAICS 211 – Oil and Gas Extraction Industries in the Oil and Gas Extraction subsector operate and/or develop oil and gas field properties. Such activities may include exploration for crude petroleum and natural gas; drilling, completing, and equipping wells; operation of separators, emulsion breakers, desilting equipment and field gathering lines for crude petroleum and natural gas; and all other activities in the preparation of oil and gas up to the point of shipment from the producing property. The subsector includes the production of crude petroleum, the mining and extraction of oil from oil shale and oil sands, and the production of natural gas, sulfur recovery from natural gas, and recovery of hydrocarbon liquids.

Establishments in this subsector include those that operate oil and gas wells on their own account and for others on a contract or fee basis. Establishments primarily engaged in providing support services, on a fee or contract basis, required for the drilling or operation of oil and gas wells (except geophysical surveying and mapping, mine site preparation, and construction of oil/gas pipelines) are classified in Subsector 213, Support Activities for Mining.

NAICS 213111 – Drilling Oil and Gas Wells This U.S. industry comprises establishments primarily engaged in drilling oil and gas wells for others on a contract or fee basis. This industry includes contractors that specialize in spudding in, drilling in, redrilling, and directional drilling.

NAICS 213112 – Support Activities for Oil and Gas Operations This U.S. industry comprises establishments primarily engaged in performing support activities on a contract or fee basis for oil and gas operations (except site preparation and related activities). Services included are exploration (except geophysical surveying and mapping); excavating slush pits and cellars; well surveying; running, cutting, and pulling casings, tubes, and rods; cementing wells, shooting wells; perforating well casings; acidizing and chemically treating wells; and cleaning out, bailing, and swabbing wells.

6.2 Economic Impact Modeling

Economic impacts on an economy arise from exogenous sources or activities that result in new funds being injected into the economy. Examples include are products that are exported and new construction funding. It is important for outside funds to be injected into a regional economy for economic impacts to occur. If an activity is financed by funds from inside a regional economy, known as residentiary spending, then the funds are diverted from one industrial sector to another and there is no net multiplier effect or economic impact. Crude oil and natural gas from the producing areas in Utah are exported to refineries and markets in other portions of the country. Exporting oil and gas results in an inflow of funds which creates a positive economic impact on the area.

In this study, economic impact is used to mean the impact of oil and gas E&P activities on the amount of employment and wages paid in the various producing regions in Utah. Many similar studies present the total economic output of an activity as the economic impact; this is the sum of all transactions in a supply chain and can be much larger than the value of the final good or service provided to the end consumer. Similarly, many authors apply economic output multipliers to all spending related to an activity, with no distinction between export-based and residentiary spending. The result is often termed "economic contribution" and presented as economic impact. As with all economic output calculations, the result is much larger than the value of the final product delivered to an end consumer.

The oil and gas exploration and production industry has a direct impact on the local economy through employment and wages paid. In addition, there are additional indirect and induced impacts. Indirect impacts result from local spending by the E&P industry and induced impacts arise from employees of the E&P industry spending their earnings.

Examples of indirect impacts are employment and wages at seismic companies, regulatory and environmental consulting firms, consulting geologists, trenching and dirtwork, and utilities providing electricity. Other benefits accrue to local hotels and restaurants as a result of spending by visiting workers. The indirect and induced

impacts can be calculated from the value of transactions between the E&P industry and these other businesses.

The RIMS II Input-Output model developed by the Bureau of Economic Analysis was used to determine the indirect and induced economic impacts of the oil and gas exploration and production industry in the Uinta Basin. The RIMS II model is based on an accounting framework called an input-output table. From each industry, an input-output table shows the industrial distribution of inputs purchased and outputs sold. The Bureau of Economic Analysis has developed a national input-output table (Bureau of Economic Analysis, 1997). To develop region-specific input-output tables, the national input-output table is modified using regional economic data. The producer portion of the input-output table is modified using location quotients at the six-digit NAICS level based on personal income data for service-producing industries and wage and salary data for nonservice-producing industries. Household data is modified to account for commuting across regional boundaries and savings and taxes. Once the national input-output table is regionalized, the multipliers are estimated through use of matrix algebra. The RIMS II model estimates the employment and wage impacts by major NAICS industry.

Data on spending by the E&P industry in the Uinta Basin was obtained via a survey of operating, drilling and service companies operating in the area. Personnel with the Bureau of Economic and Business Research at the University of Utah cooperated with the Independent Petroleum Association of the Mountain States (IPAMS) to developed survey forms with input from several representatives of the petroleum industry. IPAMS distributed the survey forms to operating, drilling and service companies operating in the Uinta Basin and the forms were returned to the Bureau of Economic and Business Research. Data from returned survey forms was totaled by spending category. Using data on total production of oil and gas, number of wells spudded and employment reported by government agencies, the total spending reported by responding companies was expanded to total industry spending in the region. The multipliers from the RIMS II model were then applied to the total spending by category to determine the indirect and induced employment and wages.

State income tax impacts were estimated by calculating the ratio of the Utah income tax liability for Duchesne and Uintah Counties to the total of the total earnings by place of work for the two counties as determined by the Bureau of Economic Analysis. This average of this ratio for the years 2003 through 2005 was 4.02 percent. This ratio was then applied to the total estimated earnings due to oil and gas E&P in the Uinta Basin of $448,246 thousand to estimate the state personal income tax.

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ATTACHMENT D

ATTACHMENT D

The Structure and Economic Impact of Utah's Oil and Gas Exploration and Production Industry Phase II - Carbon and Emery Counties

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List of Acronyms & Abbreviations

BCF	Billion Cubic Feet
BLM	Bureau of Land Management
BLS	Bureau of Labor Statistics
DOGM	Utah Division of Oil, Gas and Mining
E&P	Exploration and Production
IPAMS	Independent Petroleum Association of the Mountain States
MCF	Thousand Cubic Feet
MMCF	Million Cubic Feet
MW	Megawatts
NAICS	North American Industry Classification System
NYMEX	New York Mercantile Exchange
PADD	Petroleum Administration for Defense District
SIC	Standard Industrial Code
SITLA	School and Institutional Trust Lands Administration
RIMS II	Regional Input-Output Modeling System
UDOT	Utah Department of Transportation
USFS	U.S. Forest Service
WTI	West Texas Intermediate Crude

The Structure and Economic Impact of Utah's Oil and Gas Exploration and Production Industry

1 Executive Summary

The Bureau of Economic and Business Research at the University of Utah has completed an economic impact study of the oil and gas exploration and production industry in Carbon and Emery Counties in east-central Utah. Carbon and Emery Counties are an increasingly important center of natural gas production in Utah. Rapidly rising energy prices in recent years have stimulated greater production of both crude oil and natural gas in the northern Rocky Mountains, and the study area is an integral part of the oil and gas industry in the Rocky Mountain area. The study area's natural gas production increased 316 percent from 23.7 BCF in 1997 to 98.5 BCF in 2006.

The rise in oil and gas activity is having a noticeable and positive economic impact on Carbon and Emery Counties. During 2006, the oil and gas exploration and production industry was directly responsible for an estimated 137 jobs and $6.5 million in wages in the two counties. When including indirect and induced impacts due to company and employee spending, the oil and gas industry accounted for 524 jobs and $22.2 million in wages in the area. This represents 4.0 percent of total employment and 4.9 percent of total wages in the study area.

The industry also has a sizeable fiscal impact on local governments in the two county area. Property taxes paid on producing oil and gas wells were $10.2 million in 2006 and accounted for 24.3 percent of all property taxes paid in the two counties. Federal mineral royalties distributed to the two counties by the Utah Department of Transportation during 2006 amounted to $13.7 million.

2 Background

The recent rise in the price of gasoline has refocused attention on energy markets with an intensity not seen since the collapse of oil prices in the mid 1980s. In contrast to the energy shortage of the 1970s, which was largely driven by constrained supply due to geopolitical issues, the recent runup is a result of increasing demand and decreasing supply from aging fields. Crude oil, and to a lesser extent natural gas, is a worldwide commodity with international supply and demand factors determining prices. Consumption of petroleum products is up worldwide, with developing countries driving the increase. Consumption of petroleum in China grew over 30 percent from 2002 to 2006. This rise in demand has resulted in a dramatic increase in the nominal price of crude oil (Figure 1).

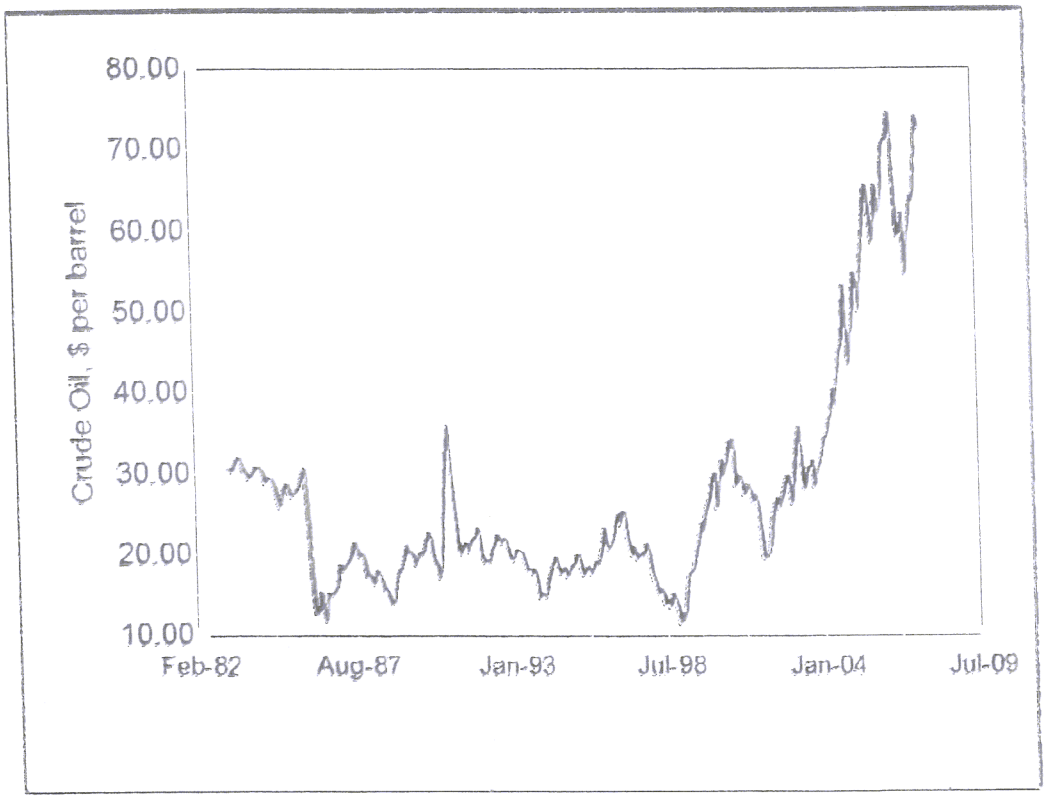

Figure 1 Crude Oil Price: NYMEX Near Month Contract for Light Sweet Crude
Source: Energy Information Administration

The price of crude oil was relatively flat during the 1990s, with prices in the $20 to $30 range. Then, from a low of $11.31 per barrel in December 1998, crude oil increased to over $70 per barrel in April 2006 and reached $79.63 in September 2007. Forecasts expect crude oil prices to remain near current levels in the future.

In September 2007 the Energy Information Administration forecast the price of West Texas Intermediate Crude[1] would remain over $71 per barrel through the end of 2008. During November 2007, prices were in the $90 per barrel range.

At the same time, natural gas prices have increased from historically low values around $2 per MCF in the late 1990s to a current price of about $7 per MCF, with increased volatility in recent years (Figure 2). Natural gas is more of a regional commodity than crude oil, with more dependence on local supply and demand factors. The necessity of transporting natural gas by pipeline results in availability of transportation infrastructure having a large influence on regional prices. Currently, there is a shortage of pipeline capacity in the Rocky Mountains so wellhead natural gas prices in the area are depressed compared to the rest of the country.

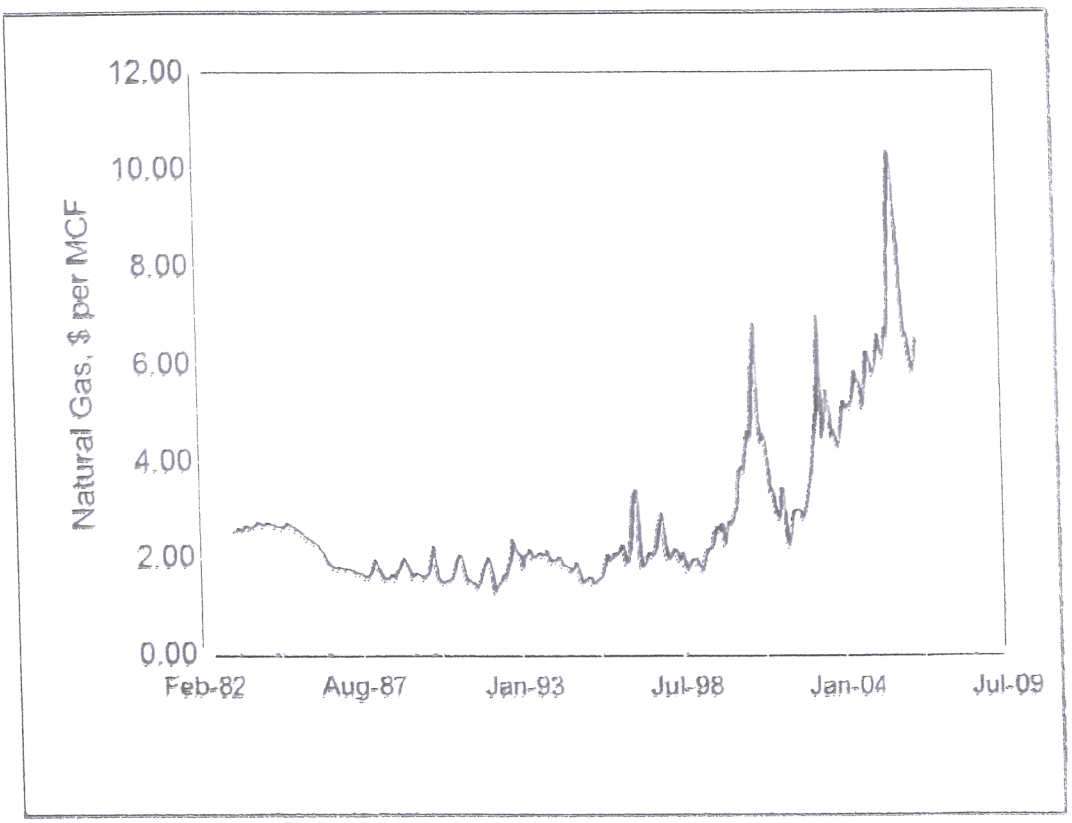

Figure 2 **Average U.S. Wellhead Price of Natural Gas**
Source: Energy Information Administration

[1]West Texas Intermediate (WTI) refers to a crude stream produced in Texas and Oklahoma that is the most common reference or "marker" for pricing crude oil and, along with several other domestic and foreign crude streams, is acceptable for settling New York Mercantile Exchange contracts for light, sweet crude oil.

While increased demand in the Pacific Rim has driven petroleum prices, demand has also increased in the U.S. In addition, domestic crude oil production has declined from a high value of 3.5 billion barrels in 1970 to 1.9 billion barrels in 2006. Even with additional drilling in response to higher prices, domestic production is dropping due to geologic constraints. The Rocky Mountain states are the only area in the country currently experiencing significant increases in production of crude oil and natural gas. Of the five Petroleum Administration for Defense Districts (PADD) (Figure 3) used for analyzing petroleum data, crude oil and natural gas production are increasing only in PADD I (the East Coast) and in PADD IV (the Rocky Mountains).

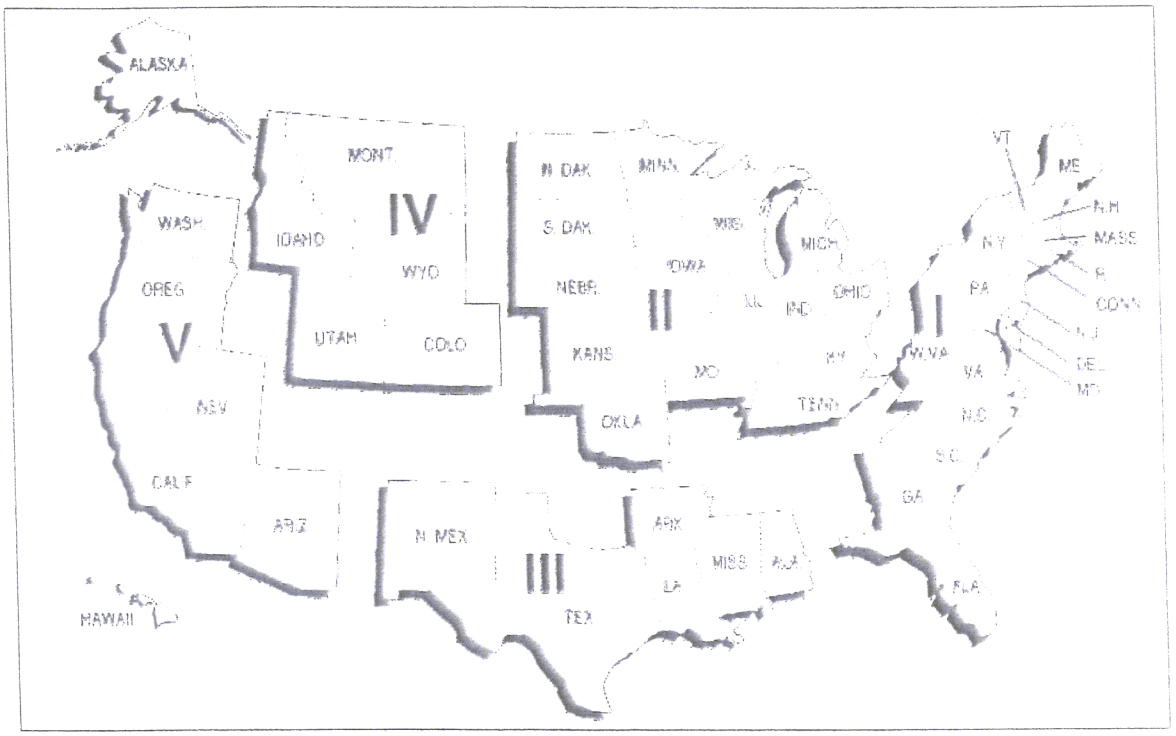

Figure 3 **Petroleum Administration for Defense Districts (PADD)**
Source: Energy Information Administration

Although crude oil production increased 11.3 percent and natural gas 15.3 percent on the East Coast from 2002 to 2005, the region is responsible for less than one-half of one percent of domestic crude oil production and three percent of natural gas production. Over the same period, the amount of crude oil produced in the Rocky Mountains increased by 20.4 percent while production on the Gulf Coast (PADD III), the largest producing area in the country, dropped by 12.8 percent. The center for production of natural gas in the United States is also shifting from the Gulf Coast to the Rocky Mountains. In 1982, PADD III was responsible for 75.5 percent of U.S. natural gas production and PADD IV supplied only 4.2 percent. By 2005, the

amount of natural gas produced in PADD III had dropped to 62.5 percent of total production while the amount from PADD IV had increased to 17.0 percent. Additionally, natural gas production in the Rocky Mountains is increasing approximately five percent annually. The increase in crude oil and natural gas production in the Rocky Mountain states is creating an economic boom in the producing areas.

Table 1 U.S. Crude Oil and Natural Gas Production by PADD, 2002-2005

	PADD I	PADD II	PADD III	PADD IV	PADD V	United States Total
Crude Oil, thousand barrels						
2002	7,458	164,635	1,174,305	102,982	947,745	2,097,124
2003	7,170	161,360	1,162,869	105,931	636,123	2,073,453
2004	6,941	159,309	1,103,743	113,069	600,239	1,983,302
2005	8,299	161,587	1,023,499	123,956	572,765	1,890,106
Percent Change, 2002-2005	11.3	(1.9)	(12.8)	20.4	(39.6)	(9.9)
Dry Natural Gas, MMCF						
2002	453,774	2,432,537	12,622,766	2,641,749	776,962	18,927,788
2003	521,824	2,336,271	12,662,381	2,797,202	780,866	19,098,544
2004	520,240	2,428,676	11,960,955	2,935,503	745,517	18,590,891
2005	522,997	2,413,736	11,298,362	3,075,234	763,907	18,074,237
Percent Change, 2002-2005	15.3	(0.8)	(10.5)	16.4	(1.7)	(4.5)

Source: Energy Information Administration

Despite the common perception of being vertically integrated, the oil and gas industry is highly fragmented, especially at the exploration and production stage. Many companies concentrate exclusively on oil and gas production and have no interest in downstream operations such as pipelines, refineries and product distribution. Additionally, much of the work conducted in the producing fields is contracted to other companies that specialize in different aspects of drilling and maintaining the wells. Few of the operating companies operate their own drill rigs but instead contract with companies that specialize in drilling. Other companies specialize in different operations such as grading well locations, well surveying, running and pulling well casings, cementing wells, perforating well casings and reservoir treatment and stimulation. The operating, drilling and service companies collectively constitute the oil and gas exploration and production industry.

Many other industries benefit from spending by the oil and gas industry. These include consulting geologists and engineering companies, environmental consultants, vendors of oil field equipment, and pipeline and trucking companies. Spending by oil industry employees also benefits the local economy. These economic benefits beyond direct employment in the exploration and production

industry are known as indirect and induced benefits, and are the source of the "multiplier" effect. This study examines the structure of the Utah oil and gas exploration and production industry and the total economic impact on the producing areas.

3 Utah's Oil and Gas Industry

The Utah oil and gas industry started in 1891, when a water well being drilled in Farmington Bay near the Great Salt Lake encountered natural gas at a depth of 1,000 feet. Gas from several wells in this area was transported to Salt Lake City through wooden pipelines for several years until shifting sand in the lakebed plugged the wells. The first oil was found in the early 1900s near Rozel Point at the north end of the Great Salt Lake, near Mexican Hat in southeastern Utah, and near the town of Virgin in southwestern Utah. The first large-scale commercial oil well was drilled near Vernal in 1948. Since the early 1960s, Utah has consistently ranked in the top 15 oil-producing states and in recent years has experienced a dramatic rise in natural gas production. During 2005, Utah ranked 15th in crude oil production out of 31 states and two Federal Offshore Areas and 11th in dry natural gas production out of 33 states and the Federal Offshore Area in the Gulf of Mexico.

Utah is contributing to the recent growth in crude oil and natural gas production taking place in the Rocky Mountain states (PADD IV). The state's 2006 crude oil production of 17.9 million barrels was a 37 percent increase over the recent low of 13.1 million barrels produced in 2003 (Figure 4). Although a substantial increase from the recent past, 2006's output was still only 44 percent of the all-time high of 41.1 million barrels produced in 1985.

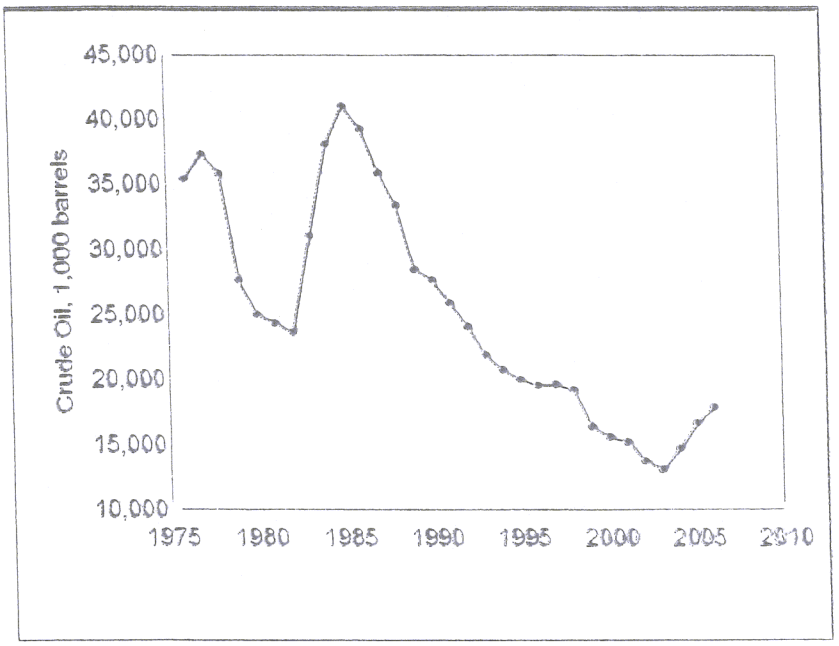

Figure 4 **Utah Crude Oil Production**
Source: Utah Division of Oil, Gas and Mining

There has been an even greater rise in natural gas production in Utah. In 2006, Utah's marketed natural gas production hit an all-time high of 343 BCF, up 502 percent from 57 BCF in 1976 (Figure 5).

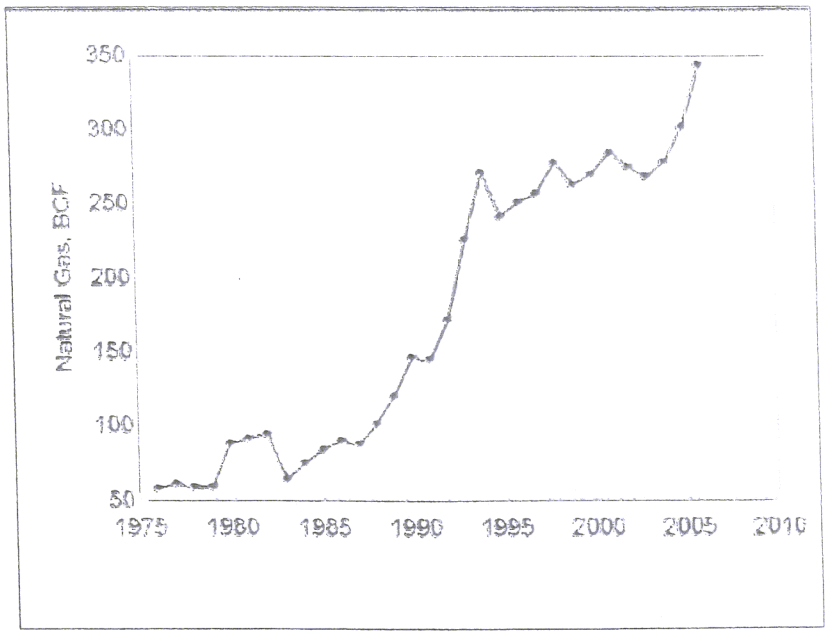

Figure 5 **Utah Marketed Natural Gas Production**
Source: Utah Geological Survey

Not all gross withdrawals of natural gas are marketed to consumers. Low prices of natural gas during the late 1980s and early 1990s resulted in much of the gas produced in Utah at the time not being marketable. A large portion of the gas withdrawn from wells in Utah during this period was reinjected into the geologic formations to maintain pressure and oil production. The amount of gas used for repressuring in Utah reached a high in 1983, when 65 percent of gross withdrawals were reinjected to maintain pressure. Currently, approximately 95 percent of natural gas withdrawals in Utah are marketed. Most of the gas that is not marketed is used for fuel at the production site or is accounted for by nonhydrocarbon gases that are removed from the production stream prior to marketing.

Average production per well of both crude oil and natural gas has been declining in Utah, so additional drilling will have to continue to maintain production at current levels. Although natural gas production has been steadily rising and crude oil production in Utah has rebounded in recent years, production per individual well has been declining. Natural gas production per gas well peaked at 740 MMCF in 1962. Production per well steadily declined to 67 MMCF in 2000 before rising to 84 MMCF in 2006. Similarly, crude oil production per oil well peaked at 57,330 barrels in 1959, then dropped to 6,727 barrels in 2003. Crude oil production per well in Utah averaged 7,308 barrels during 2006.

During 2006, 129 different operating companies reported crude oil and natural gas production to the Utah Division of Oil, Gas and Mining. Production occurred in 11 of Utah's 29 counties. Duchesne County had the highest oil production with 6,401,299 barrels while Uintah County led natural gas production with gross withdrawals of 204 BCF.

Six different areas in Utah currently have significant production of oil and/or natural gas. These areas are defined by geology. Additionally, these areas are somewhat isolated from one another economically, especially in terms of the oil and gas exploration and production (E&P) industry. The major oil and gas producing area in Utah is the Uinta Basin in the northeastern part of the state. Vernal is a center of the oil and gas industry in the Uinta Basin with many of the producing, drilling and service companies maintaining offices in the area. Other producing areas in Utah include both conventional plays and coalbed methane in Carbon and Emery Counties, the Paradox Basin in San Juan County, the Uncompahgre Uplift in Grand County, the Thrust Belt in Summit County and the recently discovered Hingeline in the central part of the state.

The Paradox Basin, Uncompahgre Uplift, and Thrust Belt all extend over state lines to adjacent states. Many of the workers involved in operating wells in these areas are actually employed in other states. Expanded gas operations in Carbon and

Emery Counties and new oil production in the Hingeline are fairly recent discoveries and an oil service industry has not developed in these areas.

Defining the oil and gas E&P industry is a key element for a study of this type. Economists use the numerical North American Industry Classification System (NAICS) developed by the Office of Management and Budget to classify industries for reporting employment and earnings. The two-digit NAICS codes are divided into 20 major industrial sectors. These two-digit major sectors are then further subdivided as necessary with the addition of more numerical digits after the first two.

The NAICS codes have three industrial subdivision classifications that directly apply to the oil and gas E&P industry. These are NAICS 211 – Oil and Gas Extraction, NAICS 213111 – Drilling Oil and Gas Wells, and NAICS 213112 – Support Activities for Oil and Gas Operations. For purposes of this study, these three industries are collectively considered the oil and gas E&P industry. Additional information on the NAICS codes for these three industries is available in Section 6.

The following section summarizes oil and gas production in Carbon and Emery Counties. Also included are economic data for Carbon and Emery Counties to place the oil and gas E&P industry in context.

3.1 Carbon and Emery Counties

For purposes of this report, the study area is defined as Carbon and Emery Counties, Utah. Coalbed methane production makes up a significant portion of the gas produced in the study area. Coalbed methane is reported as part of the natural gas production in Utah and when referring to production in the study area, the terms methane and natural gas are used synonymously in this report. Although there is potential for coalbed methane production from other coal deposits in Utah, and exploration has been conducted in other areas of the state, coalbed methane production has failed to materialize outside of Carbon and Emery.

The study area in central Utah has emerged as a significant coalbed methane producer over the past 15 years. Initial discoveries in the area were the conventional natural gas fields at Clear Creek in 1951 and at Ferron in 1957. Production noticeably increased in the early 1990s with discovery of the Drunkards Wash Field southwest of Price. Texaco Exploration and Production drilled two wells in 1988 and in 1991 River Gas Corporation took a 92,000-acre farmout from Texaco and commenced exploration. Between 1994 and 1997, exploratory drilling by Texaco established the Buzzard Bench Field between Huntington and Ferron. Meanwhile, Anadarko Petroleum Corp. established the Helper Field north of Price in 1993. Through a series of corporate buy-outs and mergers, ConocoPhillips has emerged as the major operator in the Drunkards Wash Field and is responsible for

almost half of total production in Carbon and Emery Counties. Coalbed methane development and production peaked in 2001-2002 and has declined since then. Recent discoveries of significant conventional gas deposits in deeper reservoirs by Bill Barrett Corporation in the Nine Mile and Peter's Point areas of northeastern Carbon County has brought renewed development activity to this area and started to reverse the overall gas production decline in 2006.

Carbon and Emery Counties contain just under 3.8 million acres (Table 2), with the federal government controlling nearly 72 percent of the land. The Bureau of Land Management is the major federal land-managing agency with responsibility for 2.5 million acres or 65 percent of the total. The U.S. Forest Service manages 6.3 percent of the land in the two counties. There is a small amount of National Park Service land where Capitol Reef National Park extends into the southwest corner of Emery County. With such a large portion of the land controlled by the federal government, the oil and gas E&P industry is highly sensitive to federal land management policy.

The majority of state land in the Carbon and Emery Counties is controlled by the Utah School and Institutional Trust Lands Administration (SITLA). SITLA administers 11.6 percent of the land in the two counties with the Utah Division of Wildlife Resources and the Utah Division of State Parks and Recreation controlling lesser amounts of land. There is a minor amount of Indian land along the Green River at the eastern edge of the two counties. Only 16.2 percent of the land in the two counties is privately held.

Table 2 Land Ownership in Carbon and Emery Counties

	Carbon County, acres	Emery County, acres	Two-County Area Total, acres	Percent of Total
Bureau of Land Management	419,835	2,062,072	2,481,907	65.3
US Forest Service	30,237	210,652	240,889	6.3
National Park Service	0	2,085	2,085	0.1
Total Federal	450,162	2,274,808	2,724,970	71.7
State Parks	0	394	394	0.0
State Wildlife Lands	13,857	2,837	16,694	0.4
State Trust Lands	110,029	331,854	441,883	11.6
Total State Lands	123,887	335,085	458,972	12.1
Indian Lands	73	37	110	0.0
Private	373,511	240,425	613,936	16.2
Total	947,632	2,850,356	3,797,988	100.0

Source: Utah Governor's Office of Planning and Budget

Production of both natural gas and crude oil in the study area has increased dramatically over the past 10 years, although there has been a decrease in natural

gas production in recent years. Although 2006 crude oil production in the two counties was nearly 10 times that of 1997, the area remains a minor producer of crude oil in Utah (Table 3). The 2006 production of 31,942 barrels of crude oil was 0.2 percent of statewide production.

Table 3 Carbon and Emery Counties Crude Oil Production, 1997-2006

	Crude Oil, barrels			
	Carbon County	Emery County	Two-County Area Total	State Total
1997	0	3,354	3,354	19,592,548
1998	0	3,662	3,662	19,223,542
1999	527	1,649	2,176	16,376,521
2000	211	3,279	3,490	15,609,030
2001	128	4,552	4,680	15,273,926
2002	46	2,493	2,539	13,770,860
2003	1,885	6,191	8,076	13,098,424
2004	4,661	4,657	9,318	14,799,208
2005	9,468	3,196	12,664	16,675,302
2006	27,906	4,036	31,942	17,926,580
Percent of State Total, 2006	0.2	0.0	0.2	100.00

Source: Utah Division of Oil, Gas and Mining

The study area is primarily a producer of natural gas, while oil production is minor, generally as an associated byproduct of gas production. Over the past 10 years, natural gas production in the area increased from 23.7 BCF in 1997 to 104.6 BCF in 2002 before declining to 98.5 BCF in 2006 (Table 4). Even with the decline from 2002, production in 2006 was over four times the level in 1997. During 2006, the two counties were responsible for 27.7 percent of natural gas production in Utah. Although Carbon County produces the bulk of the natural gas from the two counties, production in Emery County has been growing faster. From 1997 to 2006, natural gas production in Emery County increased by over 1,600 percent, while production in Carbon County increased by only 262 percent.

Table 4 Carbon and Emery Counties Natural Gas Production (Gross Withdrawals), 1997-2006

	Natural Gas, MCF			
	Carbon County	Emery County	Two-County Area Total	State Total
1997	22,760,216	926,911	23,687,127	272,553,774
1998	31,903,361	1,345,422	33,248,783	297,503,246
1999	50,175,216	2,317,596	52,492,812	277,494,312
2000	72,586,085	4,042,810	76,628,895	281,170,016
2001	86,532,946	7,718,744	94,251,690	300,975,578
2002	90,700,883	13,901,494	104,602,377	293,030,004
2003	85,179,739	17,213,152	102,392,891	287,141,238
2004	79,238,531	17,443,464	96,681,995	293,735,994
2005	74,822,590	16,606,967	91,429,557	313,465,305
2006	82,337,741	16,199,707	98,537,448	356,361,028
Percent of State Total, 2006	23.1	4.5	27.7	100.0

Source: Utah Division of Oil, Gas and Mining

Drilling activity in the two counties reflects the rise in natural gas production that occurred in the late 1990s (Table 5). Drilling peaked with 148 wells spudded in 2001. At the time, the two counties accounted for 23.6 percent of all wells spudded in the state. Drilling declined to only 36 wells spudded in 2004, but rising gas prices stimulated additional drilling activity and the number of wells spudded hit 78 in 2006. The number of wells drilled in the area can be expected to continue to rise in the future. In September 2005, Bill Barrett Corporation announced plans and began work on an environmental impact statement to drill 750 new gas wells in the West Tavaputs area of northeast Carbon County.

Table 5 Wells Spudded in Carbon and Emery Counties, 1997-2006

	Wells Spudded			
	Carbon County	Emery County	Two-County Area Total	State Total
1997	41	23	64	430
1998	74	3	77	430
1999	110	16	126	283
2000	122	55	144	540
2001	104	44	148	627
2002	51	53	104	391
2003	34	14	45	480
2004	32	4	36	659
2005	59	27	86	889
2006	57	21	78	1,057
Percent of State Total, 2006	5.4	2.0	7.4	100.00

Source: Utah Division of Oil, Gas and Mining

3.1.1 Carbon and Emery Counties Economy

While production of both crude oil and natural gas is increasing in the Carbon and Emery Counties, this increase must be placed in the context of the complete economy for the two counties.

The two counties had an estimated 2006 population of 29,942, down 1.5 percent from 2002 (Table 6). Major cities include Price, with an estimated 2006 population of 8,010, Huntington (2,061), Helper (1,886), Castle Dale (1,617), Wellington (1,570) and Ferron (1,569). The 2000 Decennial Census determined that 40.5 percent of the population lives in the urban area of Price. The remainder of the two counties are not densely enough populated to be considered urban.[2] Although it contained over 40 percent of the population of the two counties, Price accounts for only 0.15 percent of the area in the two counties.

[2]The Bureau of the Census defines urban areas as census blocks that have a population density of at least 1,000 persons per square mile and surrounding census blocks with a population density of 500 persons per square mile. Adjacent census blocks with a lower population density are also included if they meet criteria established by the Bureau of the Census.

Table 6 Carbon and Emery Counties Population, 2002-2006

	Population			
	Carbon County	Emery County	Two-County Area Total	State Total
2002	19,858	10,540	30,398	2,358,330
2003	19,558	10,477	30,035	2,413,618
2004	19,385	10,493	29,878	2,469,230
2005	19,338	10,491	29,829	2,547,389
2006	19,504	10,438	29,942	2,615,129

Source: Utah Population Estimates Committee

The study area is benefitting economically from the boom in energy prices, with the unemployment rate dropping from 8.3 percent in January 2004 to 3.8 percent in September 2007 (Figure 6). Since energy prices have been increasing, employment in the study area has steadily risen, from 13,000 persons in January 2003 to 15,299 persons in September 2007. Although the unemployment rate in the area has been dropping, it has consistently been above the state average since the beginning of 1997.

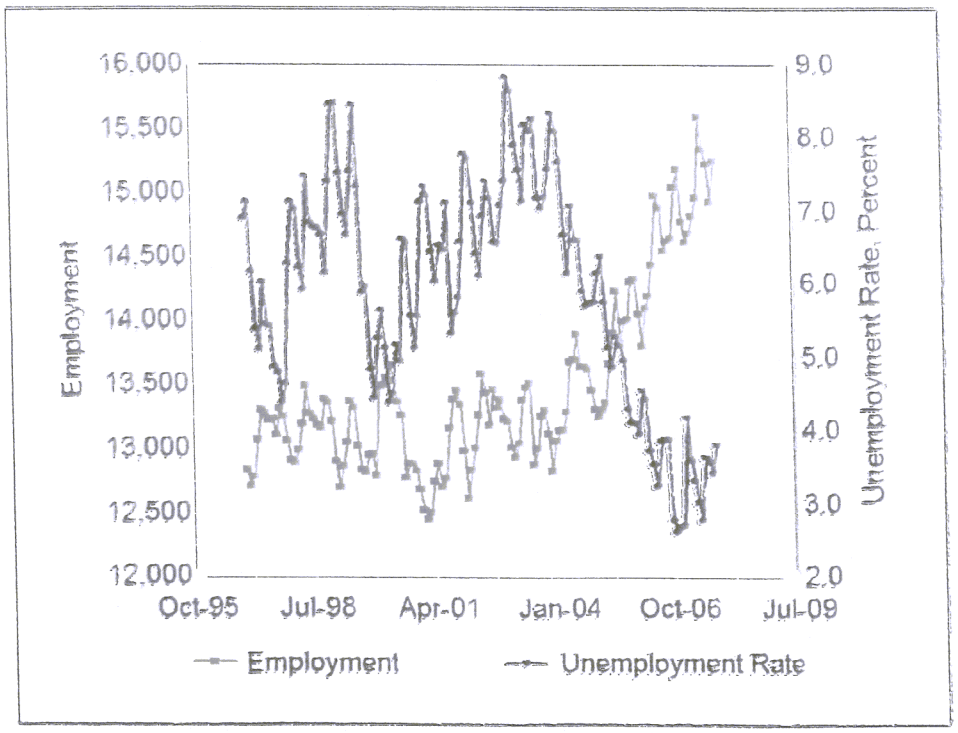

Figure 6 Employment and the Unemployment Rate in Carbon and Emery Counties
Source: BLS, Local Area Unemployment Statistics

The industrial structure of the two counties has significant differences from that of the state of Utah (Table 7). Mining (NAICS 21) constitutes a significant portion of the economy with both coal mining and oil and gas production figuring prominently. There is also one gypsum operation in Emery County and several sand and gravel operations. Approximately 90 percent of the Mining (NAICS 21) employment in the two counties is due to coal mining, not oil and gas production. Although coal mining employment is not disclosable by federal data agencies because of the small number of firms, the Utah Geological Survey determined that coal mining employment was 1,657 jobs in the two counties during 2006.

Utilities (NAICS 22) are also a major portion of the area's economy due to the presence of three coal-fired power plants with a total summer generating capacity of 2,387 MW. The Hunter Plant (1,320 MW) is located south of Castle Dale and the Huntington Plant (895 MW) is sited at the mouth of Huntington Canyon near Huntington; both are located in Emery County. The Carbon Plant (172 MW) is in Price Canyon north of Price in Carbon County. Although Utility industry (NAICS 22) employment is not disclosable for Emery County due to the concentration of employment in one company, the presence of the three power plants results in the electric utility industry being an important component of the area's economy.

Several other major industries have employment data that are not disclosable for Carbon or Emery Counties. This is done to protect individual company data. In Carbon County, besides Mining, employment data are nondisclosable for Agriculture, Forestry, Fishing and Hunting (NAICS 11); Educational Services (NAICS 61); and Health Care (NAICS 62). Emery County has a smaller economy than Carbon County and has eight industries with nondisclosable data. These are the same industries that were nondisclosable in Carbon plus Utilities (NAICS 22), Wholesale Trade (NAICS 42), Management of Companies and Enterprises (NAICS 55), and Administrative and Support (NAICS 56). Since employment numbers are not reported for these industries, location quotients[3] can not be calculated.

Industries for which employment was reported and which have low location quotients in the study area include Manufacturing (NAICS 31-32); Real Estate (NAICS 53); Professional, Scientific and Technical Services (NAICS 54); and Arts, Entertainment and Recreation (NAICS 71). Manufacturing has a location quotient of 0.32, indicating that the area is only 32 percent as dependent on Manufacturing for employment as is the state of Utah.

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[3]Location Quotients are the ratio of an industry's share of employment in a study are, in this case Carbon and Emery Counties, to its share in a reference area, e.g., the state of Utah.

Table 7 Employment by Industry in Carbon and Emery Counties, 2006

	Carbon County	Emery County	Two-County Area	Distribution, Percent	Location Quotient
Private Employment					
Agriculture, Forestry, Fishing and Hunting (NAICS 11)	ND	ND	ND	NA	NA
Mining (NAICS 21)	ND	ND	ND	NA	NA
Utilities (NAICS 22)	138	ND	ND	NA	NA
Construction (NAICS 23)	393	338	731	5.6	0.69
Manufacturing (NAICS 31-32)	418	17	435	3.4	0.32
Wholesale Trade (NAICS 42)	450	ND	ND	NA	NA
Retail Trade (NAICS 44-45)	1,286	433	1,719	13.3	1.10
Transportation and Warehousing (NAICS 48-49)	300	135	435	3.4	0.92
Information (NAICS 51)	127	132	259	2.0	0.75
Finance and Insurance (NAICS 52)	192	52	244	1.9	0.41
Real Estate (NAICS 53)	59	6	65	0.5	0.33
Professional, Scientific and Technical Services (NAICS 54)	220	59	279	2.2	0.41
Management of Companies and Enterprises (NAICS 55)	58	ND	ND	NA	NA
Administrative and Support (NAICS 56)	371	ND	ND	NA	NA
Educational Services (NAICS 61)	ND	ND	ND	NA	NA
Health Care (NAICS 62)	ND	ND	ND	NA	NA
Arts, Entertainment and Recreation (NAICS 71)	71	0	71	0.5	0.37
Accommodation and Food Services (NAICS 72)	742	169	911	7.0	0.90
Other Services (NAICS 81)	342	143	485	3.7	1.50
Government Employment	1,978	823	2,801	21.6	1.32
Total Employment	9,067	3,887	12,954	100.0	1.00

ND: Not disclosed to protect individual company information. NA: Not Applicable.

Source: BLS, Quarterly Census of Employment and Wages

Both the concentration of the coalbed methane industry and its recent development in Carbon and Emery Counties are reflected in the employment data released by the Bureau of Labor Statistics (Table 8). If an industry is dominated by one company in an area, data are not released to prevent disclosure of individual company data. Much of the employment data specific to the oil and gas industry is not disclosable in Carbon and Emery Counties. Two characteristics of the industry in the two counties contribute to this. First, few operating companies maintain offices in the area. Only three operating companies (NAICS 211) reported employment in the area during 2006. The three companies were all located in Carbon County. The Drunkards Wash Field in Carbon County, currently operated by ConocoPhillips, is sufficiently large compared to other fields in the area that employment is concentrated in one company. Second, since the coalbed methane industry is a relatively recent development in the area, with major production occurring over the past 15 years, a sizable oil and gas service industry has not developed in the two counties, resulting in employment for drilling and service companies not being disclosable.

Table 8 Oil and Gas E&P Employment in Carbon and Emery Counties, 2001-2006

	NAICS 211 Oil and Gas Extraction	NAICS 213111 Drilling Oil and Gas Wells	NAICS 213112 Support Activities for Oil and Gas Operations
Carbon County			
2001	ND	0	19
2002	ND	0	ND
2003	ND	ND	44
2004	ND	ND	32
2005	ND	ND	ND
2006	ND	ND	ND
Emery County			
2001	0	0	ND
2002	0	0	ND
2003	0	0	ND
2004	ND	0	ND
2005	0	0	ND
2006	0	0	ND

ND: Not disclosed to protect individual company data.
Source: BLS, Quarterly Census of Employment and Wages

In the absence of data from the government statistical agencies, operating companies with offices in the area were contacted to obtain employment information. Currently, three operating companies maintain offices in the two

counties and directly employ 72 persons. Data obtained from these companies indicate that the average annual wage paid by companies in the Oil and Gas Extraction industry (NAICS 211) in the area is approximately $52,000 annually. Data from the Bureau of Labor Statistics indicates that the average annual wage in Carbon County for the Support Activities for Mining industry (NAICS 213) was $43,100 during 2006. Both the well drilling companies (NAICS 213111) and service companies (NAICS 213112) are subsets of the Support Activities for Mining (NAICS 213) industry and should pay similar wages.

Of the major industries in the two counties, only coal mining, Construction and Utilities pay a higher average wage (Table 9). The average wage for coal mining for the two counties is not disclosed by the government statistical agencies, but the statewide average annual wage for coal mining was $62,666 in 2006. Since 82 percent of the coal mining employment in Utah is located in Carbon and Emery Counties, the wage in these counties should be close to the statewide average. The average annual wage for Utilities in Carbon County was $81,156 in 2006. Since the majority of employment in the Utilities industry in both counties are power plant operators, the average annual wage for the industry in Emery County should be similar. The average wage for Construction was $56,139 in Carbon County and $38,988 in Emery County during 2006.

wages. Since the industry is a relatively recent development in the area, many of the service companies have not established a permanent presence there but work out of offices in the Uinta Basin. Employment in the two counties in the oil and gas E&P industry is estimated at 137 persons, or 1.1 percent of total employment during 2006 (Table 10). Due to the industry paying higher than average wages, total wages in the area are estimated at $6.5 million, or 1.5 percent of total wages for 2006.

Table 10 Direct Employment and Wages in the E&P Industry in Carbon and Emery Counties, 2006

	Carbon and Emery Counties Total	
	Employment	Wages, $1,000
Total	12,954	450,623
E&P Industry, Direct	137	6,546
E&P Industry, percent of total	1.1	1.5

Source: BLS, Quarterly Census of Employment and Wages; Utah Department of Workforce Services FirmFind; interviews with companies; author's estimates.

In addition to the direct employment, additional jobs and wages due to spending by the industry and employees results in significant economic benefits to the study area. Other employment due to spending by the E&P industry is not limited to the mining industry but is distributed throughout different industries. Total employment in the two-county area due to the E&P industry, including direct, indirect, and induced, was estimated at 4.0 percent of total jobs in the area in 2006 (Table 11). When examining employment by industry, the oil and gas industry is shown to have significant effects on several other industries.

The E&P industry is responsible for 14.1 percent of total employment in the Construction industry in Carbon and Emery Counties. Additionally, 7.1 percent of the Real Estate employment in the area is due to oil and gas operations. There are an estimated 10 additional mining jobs in the area due to the oil and gas operations; these jobs are in addition to the estimated 137 jobs directly in the E&P industry. When considering both the direct jobs and the additional indirect and induced jobs in the mining industry, the oil and gas E&P industry is responsible for 8.1 percent of total mining jobs in the two counties, based on Utah Geological Survey estimates of coal mining employment in the area. The coal mining industry, which is much more labor intensive, is responsible for the bulk of the remaining mining jobs.

Although there are government employees located in the Coalbed Methane Area to regulate the oil and gas industry, these are not considered part of the Mining industry. The state Division of Oil, Gas and Mining has an office in Price and there are also local BLM and USFS employees dedicated to regulating the industry. For purposes of employment classification, these employees are considered to be

Table 12 Wages Due to Oil and Gas E&P in Carbon and Emery Counties, 2006

	Two-County Area Total Wages, $1,000	Total Wages Due to Oil and Gas E&P, $1,000	Oil and Gas E&P Wages, percent of total
Private Employment			
Agriculture, Forestry, Fishing and Hunting (NAICS 11)	ND	9	NA
Mining (NAICS 21)	111,000	7,359	6.6
Utilities (NAICS 22)	ND	3,891	NA
Construction (NAICS 23)	35,249	4,241	12.0
Manufacturing (NAICS 31-32)	18,992	260	1.4
Wholesale Trade (NAICS 42)	ND	458	2.3
Retail Trade (NAICS 44-45)	30,198	1,542	5.1
Transportation and Warehousing (NAICS 48-49)	15,243	945	6.2
Information (NAICS 51)	6,713	191	2.8
Finance and Insurance (NAICS 52)	6,599	218	3.3
Real Estate (NAICS 53)	1,044	117	11.2
Professional, Scientific and Technical Services (NAICS 54)	5,450	207	3.8
Management of Companies and Enterprises (NAICS 55)	ND	56	NA
Administrative and Support (NAICS 56)	ND	214	NA
Educational Services (NAICS 61)	ND	233	NA
Health Care (NAICS 62)	ND	924	NA
Arts, Entertainment and Recreation (NAICS 71)	825	44	5.4
Accommodation and Food Services (NAICS 72)	9,660	530	5.5
Other Services (NAICS 81)	12,846	678	5.3
Households	NA	36	NA
Government Employment	82,266	NA	NA
All Employment	450,623	22,151	4.9

ND: Not disclosed. NA: Not applicable.
Source: BLS, Quarterly Census of Employment and Wages; author's calculations.

5 Fiscal Impacts

The oil and gas industry also has fiscal impacts on the local areas. Fiscal impacts refer to impacts on government finances and tax collections. The oil and gas industry is subject to the tax laws common to all businesses. There are also impacts unique to the industry. Production on federal land is subject to a royalty payment under the Mineral Lands Leasing Act of 1920. This royalty is paid to the Minerals Management Service, an agency within the U.S. Department of Interior. A portion of the federal mineral royalties is returned to the state of origin, generally one-half. Royalties from production on Indian lands are returned to the appropriate tribe, not to the state government. Since a large portion of the crude oil production in Utah occurs on Indian lands, especially in Duchesne and San Juan Counties, the amount of crude oil royalty returned to the state government is significantly less than one-half of the amount paid to the Minerals Management Service. The states have full discretion as to the distribution of federal mineral royalties as long as priority is given to areas with economic and/or social impacts from leasing activities. The

Minerals Management Service does not release federal mineral royalty data at the county level, but statewide data are available.

Federal mineral royalties due to oil and gas production in Utah have increased dramatically from $91 million in 2001 to nearly $300 million in 2006, a 228 percent rise (Table 13). Oil and gas production accounted for 91.3 percent of the royalties paid for mineral production on federal land in Utah during 2006. There was also an additional $103 million paid in bonuses and rents on federal mineral leases. These are fees associated with awarding federal mineral leases and maintaining the leases until production is initiated. Table 13 includes royalties due to oil and gas production, but does not include bonus or rent payments for federal oil and gas leases. Of the nearly $300 million paid in federal mineral royalties by the oil and gas industry in Utah, $109 million was returned to the state government.

Table 13 Federal Mineral Royalty Payments and Disbursements for Utah, 2001-2006

	Oil		Natural Gas		Total	
	Royalties	Disbursements	Royalties	Disbursements	Royalties	Disbursements
2001	$32,799,794	$4,392,667	$58,553,527	$26,210,621	$91,353,321	$30,603,288
2002	26,028,911	3,493,794	37,653,050	11,921,373	63,681,961	15,415,167
2003	37,462,357	5,575,810	55,369,036	26,040,706	92,831,293	31,616,515
2004	45,743,590	7,235,629	87,075,857	38,228,494	132,819,447	45,464,122
2005	66,900,212	10,405,687	118,132,687	53,647,636	185,032,900	64,053,323
2006	106,457,298	21,866,066	193,416,183	87,551,457	299,873,481	109,417,522

Note: Years are federal fiscal years. Natural gas includes natural gas liquids from gas processing plants.
Source: Minerals Management Service

In Utah, federal mineral royalties are distributed to several different accounts according to state law (Table 14). The largest recipients of federal mineral royalties in Utah are the Permanent Community Impact Fund and the Department of Transportation. The funds distributed to the Department of Transportation are then distributed to local governments to fund local highways in proportion to the amount of mineral lease money generated by each county. The Permanent Community Impact Fund makes loans and grants to state agencies and subdivisions of state government impacted by mineral resource development. Unlike the funds administered by the Department of Transportation, which are distributed in proportion to royalties generated in the county, the Permanent Community Impact Fund is distributed by a state-appointed board in response to proposals submitted by state agencies and local governments. Therefore, the distribution of funds by the Permanent Community Impact Fund to the various counties may vary from the amount of royalty generated. The payments in lieu of taxes cited in Table 14 are not the payments in lieu of taxes made by the federal government for federal land in Utah but are payments made by the state government to counties for lands

Table 15 State Tax Collections Related to Oil and Gas Production, 2001-2006

	Oil and Gas Severance Tax	Oil and Gas Conservation Fee
2001	$39,357,798	$2,748,318
2002	18,893,082	1,710,219
2003	26,745,279	1,943,755
2004	36,659,808	2,696,250
2005	53,484,320	3,631,963
2006	71,513,869	5,560,449

Note: Years are state fiscal years.
Source: Utah State Tax Commission

5.1 Carbon and Emery Counties

The largest direct fiscal impacts on Carbon and Emery Counties due to oil and gas operations in the area are property taxes paid by the operating companies and federal mineral royalties distributed to the local governments by the Utah Department of Transportation. The Utah State Tax Commission centrally assesses oil and gas properties using a net present value approach applied to future production. The local county treasurers bill and collect the taxes. Property taxes are levied by numerous units of local government, including county and city governments, school districts, and special service districts.

Property taxes paid on oil and gas properties have become a significant portion of total property taxes in the two counties (Table 16). During 2006, the oil and gas industry paid nearly 25 percent of total property taxes in the two counties. Over one-third of the property tax paid in Carbon County during 2006 was due to oil and gas production and just over one-tenth of the property tax in Emery County was due to oil and gas. The two large power plants located in Emery County mean that 65 percent of property taxes in Emery County are paid by the utilities industry. Table 16 refers to all property taxes paid to various government entities in the two counties, not just the county governments. As the price of natural gas has increased in recent years, the net present value of future production has increased. This, coupled with rising production, has resulted in the amount of property taxes paid by the oil and gas industry in the two counites increasing by over 25 times over the past 10 years, not adjusting for inflation. Oil and gas property taxes have been rising faster in Emery County than in Carbon County, reflecting rising natural gas production in the county. Property taxes paid on oil and gas production increased by 4,622 percent in Emery County from 1997 to 2006, and by 2,155 percent in Emery County. Given the rising production and expected continuation of current energy prices, the property taxes paid by the oil and gas production industry in the two counties should continue to rise into the future.

Table 17 includes data on all royalties from federal mineral leases in Utah, not just oil and gas operations. There is significant coal production from federal leases in the two counties and a major portion of the federal mineral royalties returned by UDOT may be due to coal production. Almost all federal mineral royalties in the two counties are the result of energy production, whether coal, oil or natural gas. The rise in energy prices in recent years, coupled with the resultant production increases, has had a noticeable fiscal impact on the two counties.

Royalties paid to SITLA due to production of oil and gas in Carbon and Emery Counties dropped slightly from 2005 to 2006 (Table 18).

Table 18 Royalties Paid for Production on SITLA Lands in Carbon and Emery Counties, 2005-2006

	Carbon County	Emery County	Two-County Area Total
2005	$21,077,378	$5,775,864	$26,853,242
2006	19,786,589	5,355,106	25,141,695

Note: Years are state fiscal years.
Source: School and Institutional Trust Lands Administration

Most of the Drunkards Wash Field is on land controlled by SITLA and SITLA receives royalties for oil and gas production. Previous, the Drunkards Wash area was administered by the BLM but was acquired by SITLA in 1998 as part of a land exchange agreement with the federal government. Since there were preexisting federal leases in the area, the agreement stated the two county governments would not lose federal mineral royalties as a result of the land exchange. Originally, SITLA remitted one-half of the royalties received from the Drunkards Wash Field (after deducting a 3 percent administrative fee) to the state Mineral Lease Account. This account also receives federal mineral royalties returned to the state by the federal government and the funds deposited by SITLA were mingled with federal mineral royalties and distributed according to state law (Table 14). The other half of the royalties from the Drunkards Wash Field are retained by SITLA for disbursement to the various beneficiaries.

As of March 15, 2007, Utah state law changed and royalties from the Drunkards Wash Field previously deposited in the state Mineral Lease Account are now returned by the state Division of Finance to the county of origin. Between March 15, 2007 and the end of September 2007, $2.3 million had accrued with the state Division of Finance and were awaiting distribution to the two county governments.

Fiscal effects also arise from the direct, indirect and induced impacts of the oil and gas E&P industry. State personal income taxes as a result of oil and gas E&P activities in the two counties are estimated at $681,000 for 2006 (Table 19).

Table 19 Personal State Income Taxes Due to Oil and Gas E&P in Carbon and Emery Counties

	Two-County Area Total
Total Wages due to Oil and Gas E&P, $1,000	22,151
Personal State Income Taxes, $1,000	681
Source: Author's Calculations. Details of the estimation are in Section 6.	

6 Technical Notes and Methodology

Industries are classified by economists according to the North American Industry Classification System (NAICS), which was developed by the Office of Management and Budget in cooperation with other federal agencies and foreign governments (Office of Management and Budget, 2007). The NAICS codes replaced the Standard Industrial Classification (SIC) Codes that had been used since the 1930s. This change was prompted by structural changes in the U.S. economy, with the services sector becoming a much larger portion of the economy and more complex than when the SIC codes were developed. In the switch, the 10 major industrial sectors under the SIC codes were replaced with 20 major sectors under the NAICS codes. Many of the industrial sectors under the SIC codes were split among two or more of the redefined NAICS sectors, making comparisons difficult. The NAICS codes better explain the structure of the current economy but make time series data difficult to compile.

Under the NAICS system, 20 major industrial categories are further subdivided as needed. To demonstrate the level of detail obtained, Table 20 presents the divisions of the Mining (NAICS 21) sector. The Mining sector is divided into a total of 28 different industries. The other 19 industrial sectors are similarly subdivided.

Other local businesses and industries benefit from E&P activities. Examples of these are seismic companies, regulatory and environmental consulting firms, consulting geologists, trenching and dirtwork, and electric utilities. Other benefits accrue to local hotels and restaurants as a result of spending by visiting workers. These types of effects are referred to as the indirect and induced impacts. The indirect and induced impacts can be calculated from the value of transactions between the E&P industry and these other businesses using input-output economic models.

Table 20 NAICS Codes Related to the Mining Industry

NAICS Code	Industry
21	Mining, Quarrying, and Oil and Gas Extraction
211	Oil and Gas Extraction
2111	Oil and Gas Extraction
21111	Oil and Gas Extraction
211111	Crude Petroleum and Natural Gas Extraction
211112	Natural Gas Liquid Extraction
212	Mining (except Oil and Gas)
2121	Coal Mining
21211	Coal Mining
212111	Bituminous Coal and Lignite Surface Mining
212112	Bituminous Coal Underground Mining
212113	Anthracite Mining
2122	Metal Ore Mining
21221	Iron Ore Mining
212210	Iron Ore Mining
21222	Gold and Silver Ore Mining
212221	Gold Ore Mining
212222	Silver Ore Mining
21223	Copper, Nickel, Lead and Zinc Mining
212231	Lead Ore and Zinc Ore Mining
212234	Copper Ore and Nickel Ore Mining
21229	Other Metal Ore Mining
212291	Uranium-Radium-Vanadium Ore Mining
212299	All Other Metal Ore Mining
2123	Nonmetallic Mineral Mining and Quarrying
21231	Stone Mining and Quarrying
212311	Dimension Stone Mining and Quarrying
212312	Crushed and Broken Limestone Mining and Quarrying
212313	Crushed and Broken Granite Mining and Quarrying
212319	Other Crushed and Broken Stone Mining and Quarrying
21232	Sand, Gravel, Clay and Ceramic and Refractory Minerals Mining and Quarrying
212321	Construction Sand and Gravel Mining
212322	Industrial Sand and Gravel Mining
212324	Kaoline and Ball Clay Mining
212325	Clay and Ceramic and Refractory Minerals Mining
21239	Other Nonmetallic Mineral Mining and Quarrying
212391	Potash, Soda, and Borate Mineral Mining
212392	Phosphate Rock Mining
212393	Other Chemical and Fertilizer Mineral Mining
212399	All Other Nonmetallic Mineral Mining
213	Support Activities for Mining
2131	Support Activities for Mining
21311	Support Activities for Mining
213111	Drilling Oil and Gas Wells
213112	Support Activities for Oil and Gas Operations
213113	Support Activities for Coal Mining
213114	Support Activities for Metal Mining
213115	Support Activities for Nonmetallic Minerals (except Fuels) Mining

6.1 NAICS Codes Related to Oil and Gas Production

There are three classifications directly related to the oil and gas exploration and production industry. These are NAICS 211 – Oil and Gas Extraction, NAICS 213111 – Drilling Oil and Gas Wells, and NAICS 213112 – Support Activities for Oil and Gas Operations. These three classifications cover the operating companies, drilling companies, and service companies, respectively. For this study, we consider them collectively as the oil and gas E&P industry. The definitions listed are those developed by the Office of Management and Budget.

NAICS 211 – Oil and Gas Extraction Industries in the Oil and Gas Extraction subsector operate and/or develop oil and gas field properties. Such activities may include exploration for crude petroleum and natural gas; drilling, completing, and equipping wells; operation of separators, emulsion breakers, desilting equipment and field gathering lines for crude petroleum and natural gas; and all other activities in the preparation of oil and gas up to the point of shipment from the producing property. The subsector includes the production of crude petroleum, the mining and extraction of oil from oil shale and oil sands, and the production of natural gas, sulfur recovery from natural gas, and recovery of hydrocarbon liquids.

Establishments in this subsector include those that operate oil and gas wells on their own account and for others on a contract or fee basis. Establishments primarily engaged in providing support services, on a fee or contract basis, required for the drilling or operation of oil and gas wells (except geophysical surveying and mapping, mine site preparation, and construction of oil/gas pipelines) are classified in Subsector 213, Support Activities for Mining.

NAICS 213111 – Drilling Oil and Gas Wells This U.S. industry comprises establishments primarily engaged in drilling oil and gas wells for others on a contract or fee basis. This industry includes contractors that specialize in spudding in, drilling in, redrilling, and directional drilling.

NAICS 213112 – Support Activities for Oil and Gas Operations This U.S. industry comprises establishments primarily engaged in performing support activities on a contract or fee basis for oil and gas operations (except site preparation and related activities). Services included are exploration (except geophysical surveying and mapping); excavating slush pits and cellars; well surveying; running, cutting, and pulling casings, tubes, and rods; cementing wells, shooting wells; perforating well casings; acidizing and chemically treating wells; and cleaning out, bailing, and swabbing wells.

6.2 Economic Impact Modeling

Economic impacts on an economy arise from exogenous sources or activities that inject new funds into the economy. Examples include products that are exported and new construction funding. It is important for outside funds to be injected into a regional economy for economic impacts to occur. If an activity is financed by funds from inside a regional economy, known as residentiary spending, then the funds are diverted from one industrial sector to another and there is no net multiplier effect or economic impact. Crude oil and natural gas from the producing areas in Utah are exported to refineries and markets in other portions of the country. Exporting oil and gas results in an inflow of funds, which creates a positive economic impact on the area.

In this study, economic impact is used to mean the impact of oil and gas E&P activities on the amount of employment and wages paid in the various producing regions in Utah. Many similar studies present the total economic output of an activity as the economic impact; this is the sum of all transactions in a supply chain and can be much larger than the value of the final good or service provided to the end consumer. Similarly, many authors apply economic output multipliers to all spending related to an activity, with no distinction between export-based and residentiary spending. The result is often termed "economic contribution" and presented as economic impact. As with all economic output calculations, the result is much larger than the value of the final product delivered to an end consumer.

The oil and gas exploration and production industry has a direct impact on the local economy through employment and wages paid. In addition, there are additional indirect and induced impacts. Indirect impacts result from local spending by the E&P industry and induced impacts arise from employees of the E&P industry spending their earnings.

Examples of indirect impacts are employment and wages at seismic companies, regulatory and environmental consulting firms, consulting geologists, trenching and dirtwork, and utilities providing electricity. Other benefits accrue to local hotels and restaurants as a result of spending by visiting workers. The indirect and induced impacts can be calculated from the value of transactions between the E&P industry and these other businesses.

The RIMS II input-output model developed by the Bureau of Economic Analysis was used to determine the indirect and induced economic impacts of the oil and gas exploration and production industry in Carbon and Emery Counties. The RIMS II model is based on an accounting framework called an input-output table. From each industry, an input-output table shows the industrial distribution of inputs purchased and outputs sold. The Bureau of Economic Analysis has developed a

national input-output table (Bureau of Economic Analysis, 1997). To develop region-specific input-output tables, the national input-output table is modified using regional economic data. The producer portion of the input-output table is modified using location quotients at the six-digit NAICS level based on personal income data for service industries and wage and salary data for nonservice industries. Household data is modified to account for commuting across regional boundaries and savings and taxes. Once the national input-output table is regionalized, the multipliers are estimated through the use of matrix algebra. The RIMS II model estimates the employment and wage impacts by major NAICS industry.

Data on spending by the E&P industry in the two counties was obtained via a survey of operating, drilling and service companies operating in the area. Personnel with the Bureau of Economic and Business Research at the University of Utah worked with the Independent Petroleum Association of the Mountain States (IPAMS) to developed survey forms with input from several representatives of the petroleum industry. IPAMS distributed the survey forms to operating, drilling and service companies operating in Carbon and Emery Counties and the forms were returned to the Bureau of Economic and Business Research. Data from returned survey forms was totaled by spending category. Using data on total production of oil and gas, number of wells spudded and employment reported by government agencies, the total spending reported by responding companies was expanded to total industry spending in the region. The multipliers from the RIMS II model were then applied to the total spending by category to determine the indirect and induced employment and wages. Trade margins were applied to the Retail Trade, Wholesale Trade, and Transportation industries.

State income tax impacts were estimated by calculating the ratio of the Utah income tax liability for Carbon and Emery Counties to the sum of the total earnings by place of work for the two counties as determined by the Bureau of Economic Analysis. The average of this ratio for the years 2003 through 2005 was 4.02 percent. This ratio was then applied to the total estimated earnings due to oil and gas E&P in Carbon and Emery Counties of $22.2 million to estimate the state personal income tax.

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ATTACHMENT E

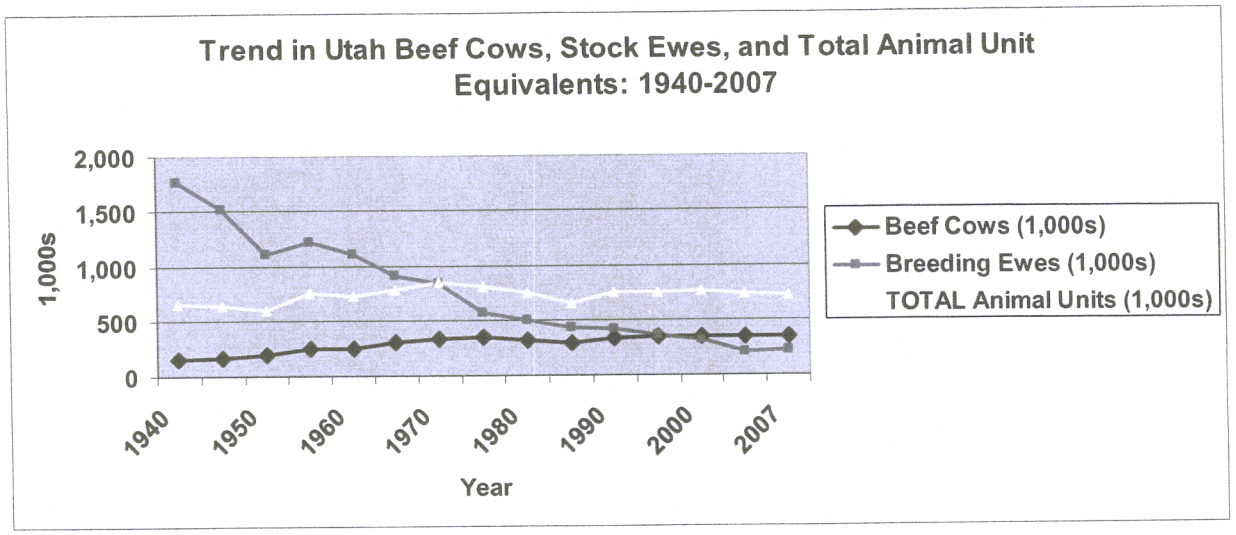
ATTACHMENT E

Livestock Industry Issues

Beef cattle and stock sheep in Utah, 1940-2007

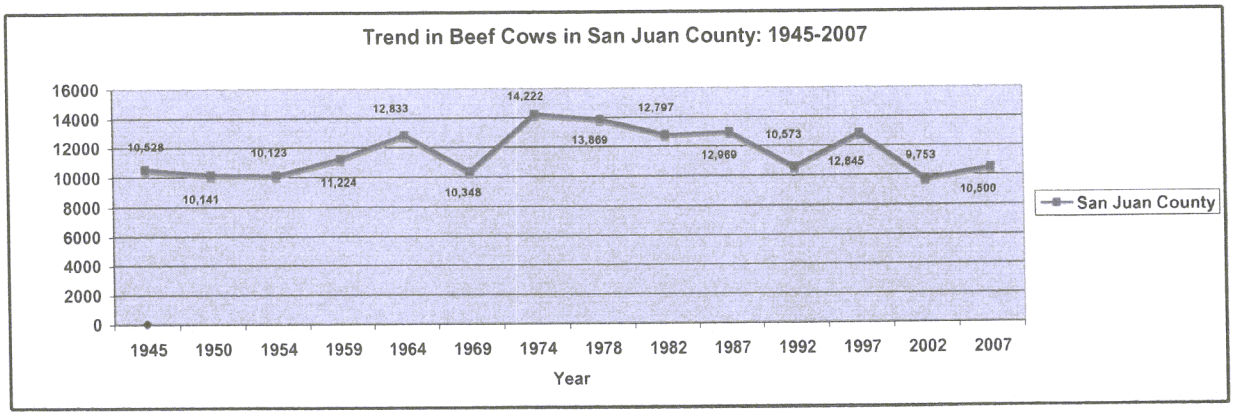
1. The number of beef cows (breeding herd) has more than doubled in Utah over the past 67 years while the number of ewes (breeding herd) has declined to only about 12% of what it was in 1940.
2. The decline in the sheep industry reflects the decline in demand for wool, consumer preference for lamb, more restrictive predator control policies, and difficulties in obtaining labor.
3. Sheep and lamb losses to predators have declined in Utah over the past 20 years. This may be a result in use of guard dogs and other kinds of improved management.
4. Many federal grazing permits have been transferred from sheep to cattle permits and total animal unit equivalents have varied some over the past 67 years.
5. Animal units equivalents (AU's) have declined by about 20% since the 1940's based on cow and ewe numbers. This decline may be more related to an increase in animal size over the period than to an actual decrease in capacity.
6. The decline in the sheep industry and fire control policies coincide with the gradual increase in woody plant domination on Utah rangelands.

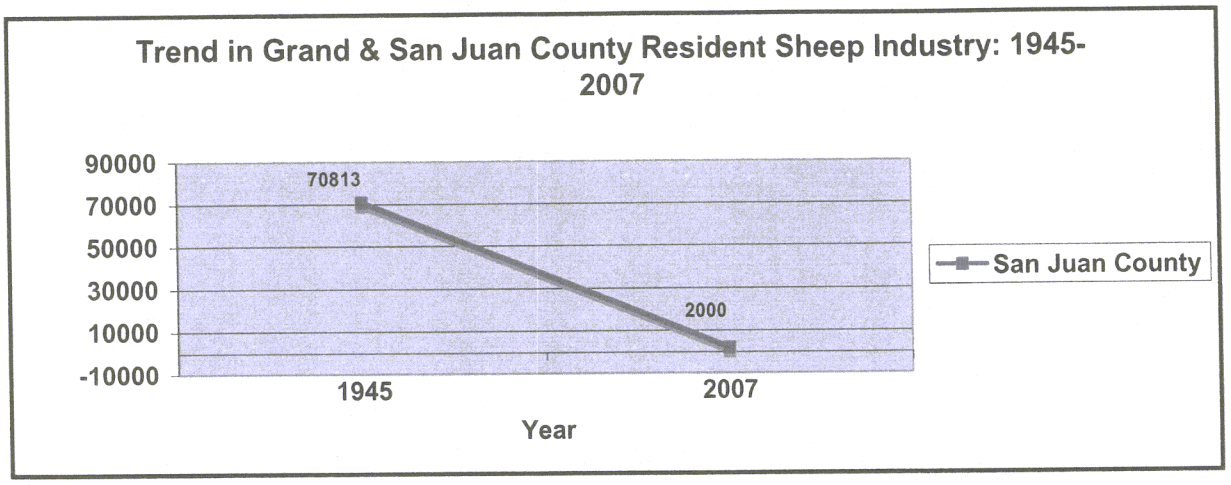
Year	Beef Cows (1,000s)	Breeding Ewes (1,000s)	TOTAL Animal Units (1,000s)
1940	155	1,762	662
1945	172	1,516	647
1950	194	1,099	608
1955	256	1,223	757
1960	252	1,099	724
1965	301	903	783
1970	342	846	853
1975	349	575	813
1980	325	506	751
1985	289	432	664
1990	333	420	750
1995	345	357	761
2000	355	321	774
2005	347	208	736
2007	344	220	732



Number of Beef Cows and Ewes in San Juan County, 1945-2007

1. Beef cow numbers have increased modestly in some Utah counties, perhaps due to improved production techniques. However, numbers have declined in some urban counties such as Davis and Washington counties.
2. San Juan County has experienced a somewhat stable trend in beef cow numbers over the period ranging from around 10,000 cows early on, to a high of near 14,000 cows in the late 1970s and back to around 10,000 beef cows again in recent times.
3. Early on, San Juan County was an important sheep producing county. However, resident sheep numbers have declined dramatically from around 70,000 ewes in 1945 to around 2,000 ewes in 2007. Increases in woody plant vegetation in San Juan County (pinyon-juniper encroachment specifically), restrictions on predator control methods (outlawing the use of 1080 specifically) and problems in acquiring labor/herders all played important roles in the decline.

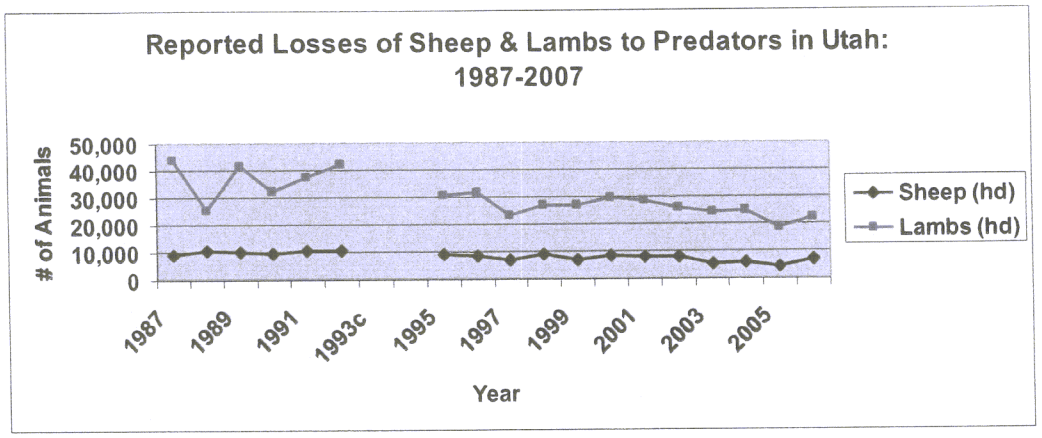



Trend in Grand & San Juan County Resident Sheep Industry: 1945-2007
90000
70000
50000
30000
10000
-10000
70813
2000
1945
2007
Year
San Juan County

Reported Losses of Sheep and Lambs to Predators 1987-2007

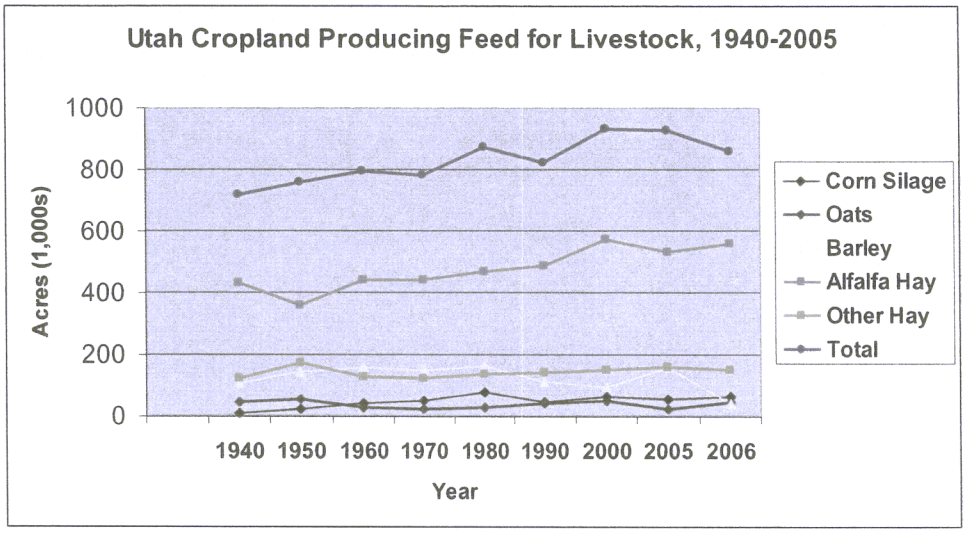
Year	Sheep (hd)	Lambs (hd)
1987	9,200	43,800
1988	10,500	25,200
1989	10,200	41,600
1990	9,300	32,200
1991	10,300	37,600
1992	10,500	42,200
1993[c]		
1994[c]		
1995	9,100	30,700
1996	8,400	31,400
1997	6,700	23,300
1998	8,700	27,100
1999	6,600	26,700
2000	8,200	29,300
2001	7,900	28,300
2002	8,100	25,700
2003	5,400	24,100
2004	5,700	24,600
2005	4,300	18,500
2006	6,700	22,300

[a]Utah Agricultural Statistics (1988-2007)
[b]Losses not reported for Bobcat and Fox until 1995
[c]Losses not reported in 1993 and 1994



Utah Cropland Producing Feed for Livestock, 1940-2005

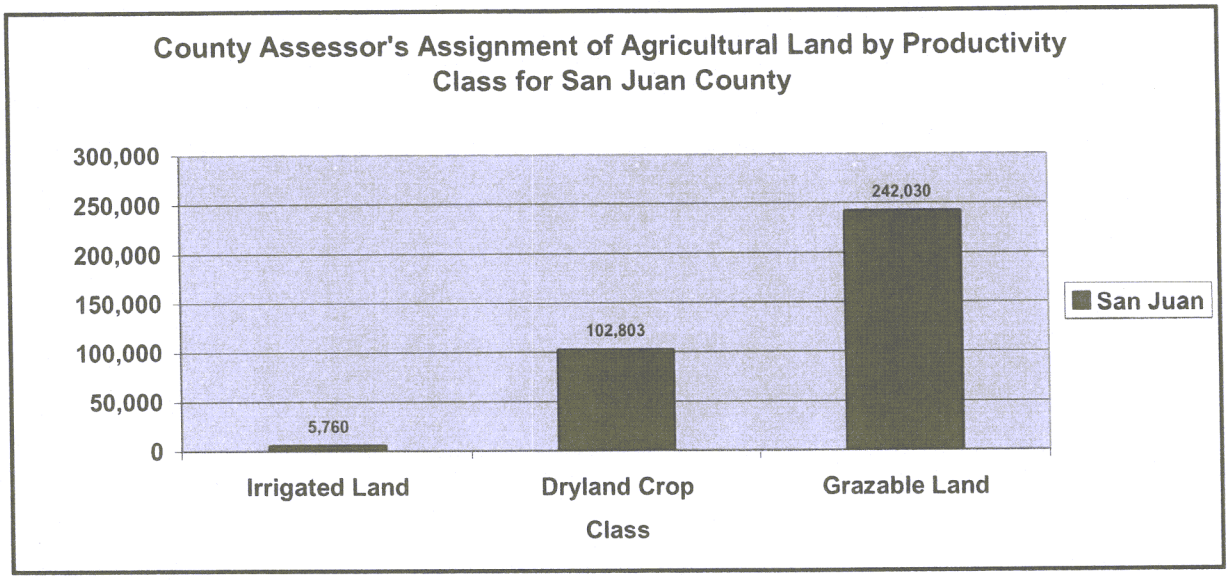
1. Acreage devoted to production of grains and forages for livestock has increased from 718,000 acres to 860,000 acres in Utah since 1940. Changes in irrigation technology could have contributed to this 20% increase in acreage. Total harvested cropland reported in the 2002 Census of Agriculture was 961,037 ac.
2. Corn silage acreage has increased, oat acreage has remained the same, barley acreage has declined, and alfalfa and other hay acreage have increased.
3. These changes may also reflect changes in irrigation technology.
4. The San Juan County Assessor has classified about 6,000 acres as irrigated private land or about 2% of the private land in the County, near 103,000 acres as non-irrigated cropland (29% of the private land) and around 242,000 acres as grazable (low productive capacity) land (69% of the private land) in San Juan County.



Utah Crop land used to produce livestock feed, 1940-2005[a]

Year	Corn Silage	Oats	Barley	Alfalfa Hay	Other Hay	Total
1940	10	46	109	431	122	718
1950	21	56	146	361	173	757
1960	41	29	160	439	127	796
1970	49	24	148	441	122	784
1980	79	26	162	470	135	872
1990	45	40	115	485	140	825
2000	64	50	95	575	150	934
2005	55	22	160	530	160	927
2006	65	45	40	560	150	860

[a]Source: Utah State Department of Agriculture (1984-2007)


County Assessor's Assignment of Agricultural Land by Productivity Class for San Juan County
300,000
250,000
200,000
150,000
100,000
50,000
0
5,760
102,803
242,030
Irrigated Land
Dryland Crop
Grazable Land
Class
San Juan

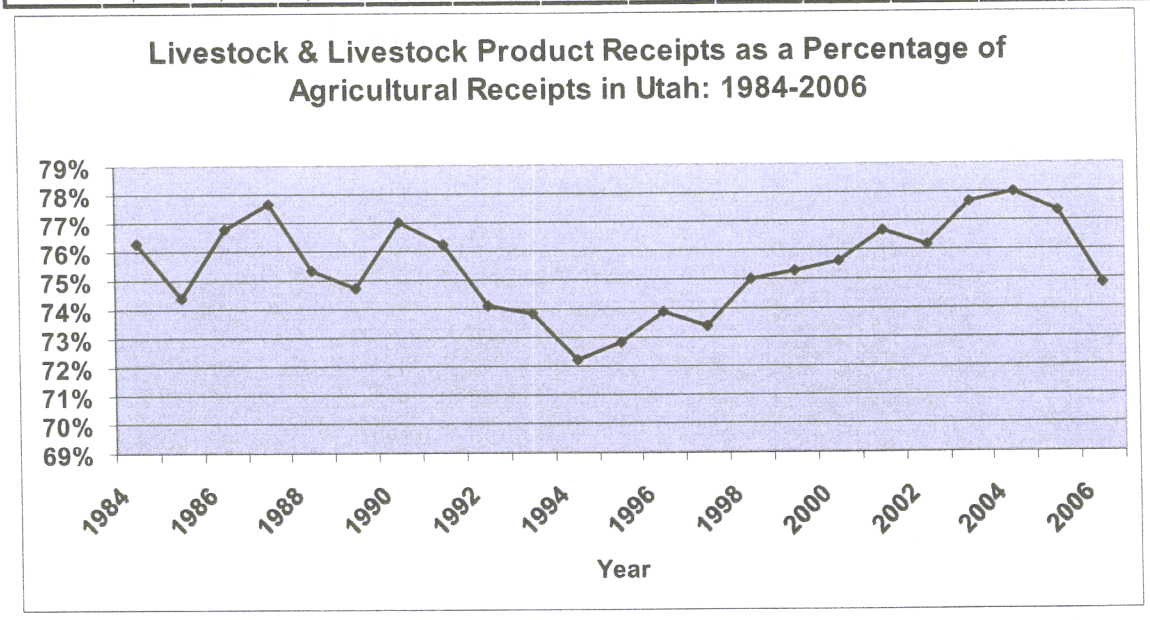
Receipts related to the livestock industry in San Juan County 1984-2006.

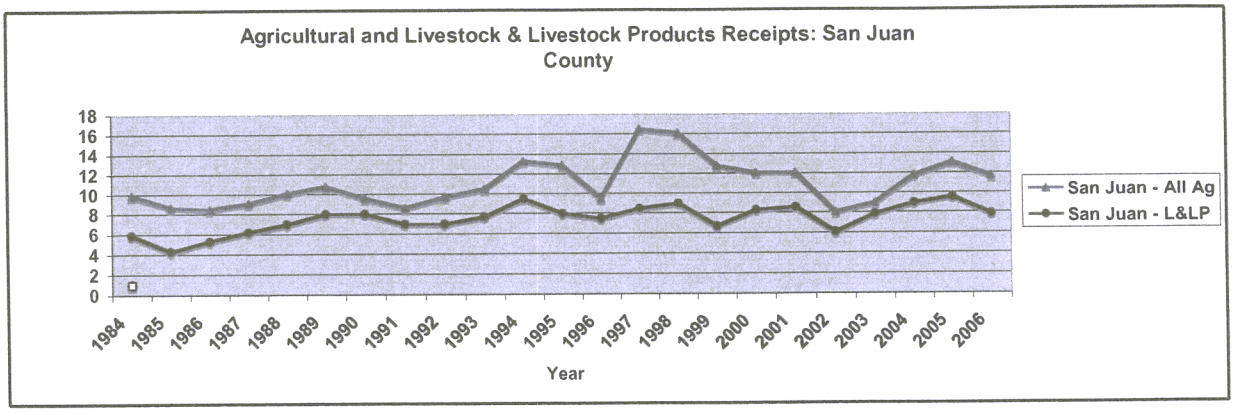
1. Receipts from Utah livestock and livestock products have doubled in nominal terms since 1984.
2. Receipts (nominal) of livestock and livestock products represent an average of 75% (range 72%-79%) of all agricultural receipts in Utah over the last 23 years.
3. San Juan County livestock and livestock product receipts (nominal) have increased from around $4.3 million in 1985 to about $9.6 million in 2006. This represents an increase of 123% in nominal terms.
4. Receipts (nominal) of livestock and livestock products represent an average of 69% (range 49%-88%) of all agricultural receipts in San Juan County over the last 23 years.

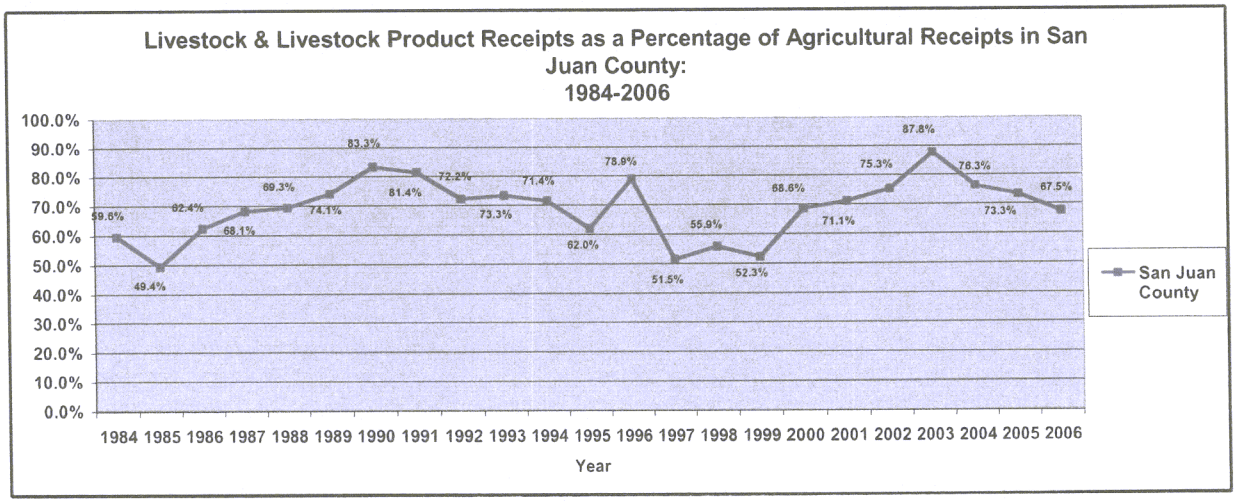
Utah Livestock and Livestock Product Receipts 1984-2006 (Millions of Dollars)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
State of Utah	773	716	766	801	915	979	1,011	947	956	1,059	1,026	1,017

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
State of Utah	1,099	1,186	1,237	1,185	1,268	1,408	1,366	1,470	1,641	1,762	1,578

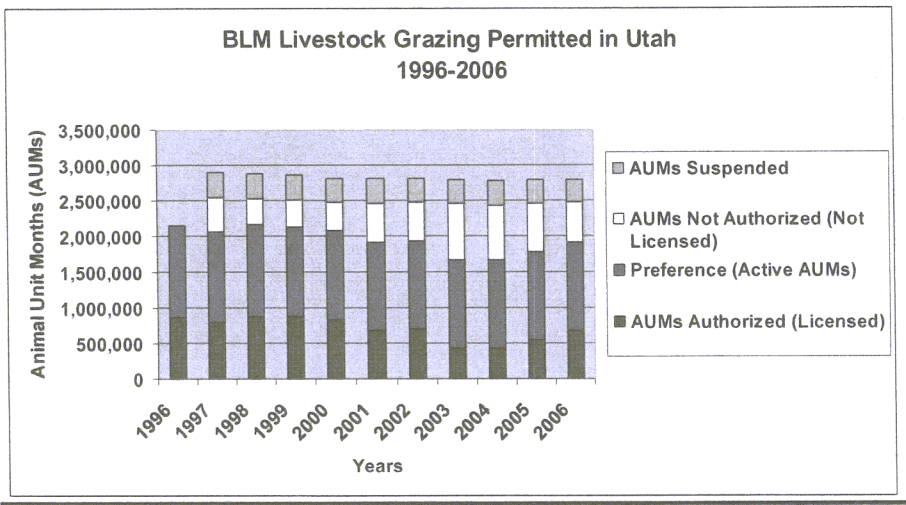



Agricultural and Livestock & Livestock Products Receipts: San Juan County
18
16
14
12
10
8
6
4
2
0
1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
Year
San Juan - All Ag
San Juan - L&LP


Livestock & Livestock Product Receipts as a Percentage of Agricultural Receipts in San Juan County: 1984-2006
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
59.6%
49.4%
62.4%
68.1%
69.3%
74.1%
83.3%
81.4%
72.2%
73.3%
71.4%
62.0%
78.9%
51.5%
55.9%
52.3%
68.6%
71.1%
75.3%
87.8%
76.3%
73.3%
67.5%
1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
Year
San Juan County

BLM Livestock Grazing Permitted in Utah 1996-2006

1. There was a general decline (downward trend) in BLM authorized use in Utah from around 1,400,000 AUMs in 1965 to around 800,000 AUMs by 1995 (43% decline) and as low as 435,000 in 2003. Grazing preference has remained relatively stable since 1995 but authorized use has average only around ⅔ of preference through time. This is partly by choice by the ranchers but also reflects the level of use BLM is willing to license through time or in a given year. Authorized use was restricted significantly (to ±⅓ of preference) statewide during 2003-2005 in response to drought.

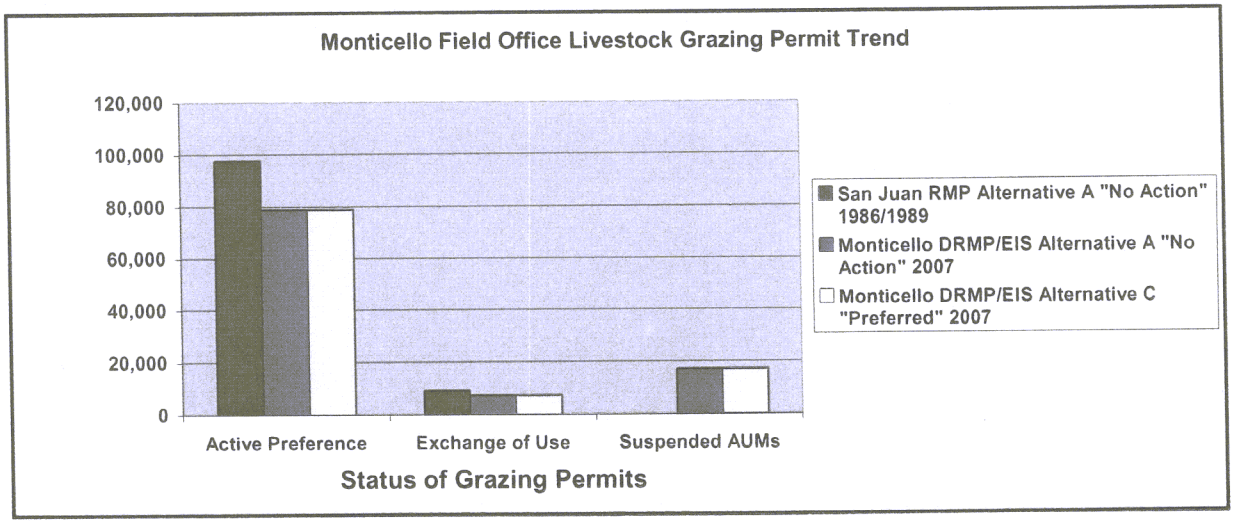


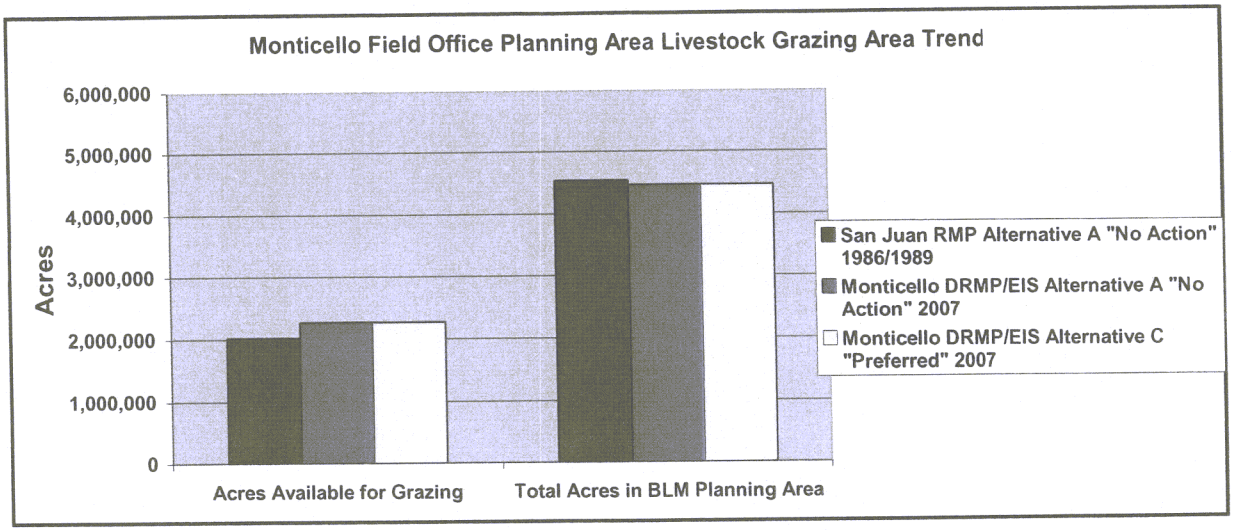
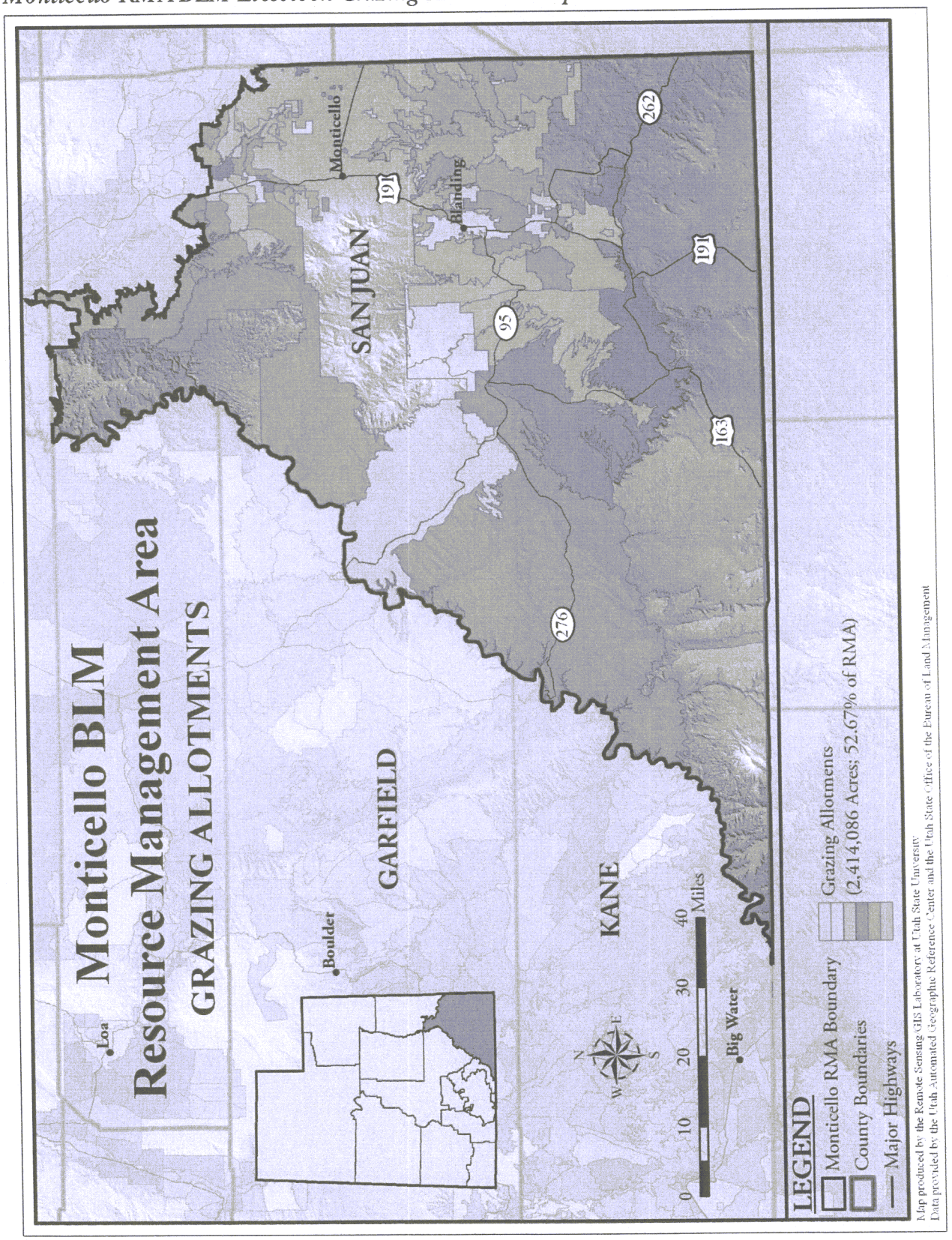
BLM Livestock Grazing Permitted in Utah 1996-2006

Year	AUMs Authorized (Licensed)	Preference (Active AUMs)	AUMs Not Authorized (Not Licensed)	AUMs Suspended	Number of Permits
1996	868,163	1,280,656			1,648
1997	798,881	1,273,899	475,018	352,017	1,641
1998	890,741	1,268,245	377,504	352,317	1,622
1999	880,091	1,257,063	376,972	346,383	1,665
2000	833,715	1,241,880	408,165	339,835	1,593
2001	678,393	1,235,236	556,843	347,895	1,576
2002	703,067	1,237,940	534,873	333,768	1,557
2003	435,406	1,231,344	795,938	332,327	1,543
2004	439,185	1,220,757	781,572	333,678	1,531
2005	544,458	1,237,117	692,659	327,801	1,525
2006	686,267	1,238,005	551,738	324,159	1,504

Monticello BLM Livestock Grazing Trends

1. The trend in livestock grazing preference and authorized use in the Monticello Field Office Planning Area is downward with the major part of the decline occurring by 1985. There have been reductions of 17,173 AUMs (17.6%) since BLM adjustments of the 1950s era. No additional reductions in grazing preference are proposed in the DRMP/DEIS Preferred Alternative C.
2. No reinstatement of suspended or reduced grazing use is proposed under the DRMP/DEIS Preferred Alternative C.
3. Trend in licensed or authorized use is downward. Ranchers commenting on BLM planning proposals to use the previous 5-year period as the basis for adjusting preference pointed out that stocking levels were in response to drought over the period. Ranchers also have drought risk management strategies (ranch business risk management) that influence stocking levels. In addition, BLM routinely must approve the level of annual use authorized and licensed. Actions are proposed under all alternatives being considered that will significantly restrict authorized use and preference over the long term. Some of these actions include interpretation of BLM policy guidelines, closing of allotments or portions of allotments for wildlife benefit, recreation, watershed health, erosive soils, riparian enhancement, cultural conflict, "special area" designations including designation of ACECs, recreation areas and high population goals for some wildlife.




Monticello Field Office Planning Area Livestock Grazing Area Trend
Acres
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Acres Available for Grazing
Total Acres in BLM Planning Area
San Juan RMP Alternative A "No Action" 1986/1989
Monticello DRMP/EIS Alternative A "No Action" 2007
Monticello DRMP/EIS Alternative C "Preferred" 2007

Monticello RMA BLM Livestock Grazing Allotment Map