



## THE WILDERNESS SOCIETY

July 15, 2008

*Delivered via electronic mail and overnight mail (with attachments)*

Solar Energy PEIS Scoping  
Argonne National Laboratory  
9700 S. Cass Ave. - EVS/900  
Argonne, IL 60439

**Re: Scoping Comments on the Solar Energy Programmatic Environmental Impact Statement**

To Whom It May Concern:

Please accept and fully consider these scoping comments on behalf of The Wilderness Society and the other organizations identified below. The Wilderness Society's more than 300,000 members and supporters nationwide care deeply about the management of our public lands. Founded in 1935, our mission is to protect wilderness and inspire Americans to care for our wild places. We appreciate the opportunity to submit these comments to the Bureau of Land Management and Department of Energy on the Programmatic Environmental Impact Statement (PEIS) for agency-wide solar energy programs and policy. We are submitting these comments today via the website and also forwarding a copy with attachments to you separately.

At a time when the threat of global warming, air and water pollution, and dramatically escalating fuel prices stand to force Americans to entirely rethink how we obtain and consume energy, the Bureau of Land Management (BLM) and Department of Energy (DOE) now have the opportunity to play a critical role in cutting-edge, non-polluting and renewable energy development. The Solar Energy Programmatic Environmental Impact Statement (PEIS) provides an important part of that opportunity.

We support the agencies' commitment to develop the Solar Energy PEIS and urge you to take this opportunity to commit to responsible development of solar energy resources. The PEIS process should be carried out thoughtfully, rigorously, and with a sense of urgency needed to balance the current drive to develop oil and natural gas on our public lands. Oil and natural gas companies have been given the opportunity to lease and run roughshod over some of our most precious public lands throughout the West with minimal consideration for the ecological, recreational and cultural resources that exist there. This PEIS is a chance to plan for development that does not ignore the other important uses and values of these lands.

# **ATTACHMENT 1**



## THE WILDERNESS SOCIETY

July 8, 2008

The Honorable David Obey  
Chairman, Committee on Appropriations

The Honorable Jerry Lewis  
Ranking Member, Committee on Appropriations  
United States House of Representatives

Dear Chairman Obey and Ranking Member Lewis:

On behalf of The Wilderness Society and its members, I write to ask for your assistance with necessary appropriations to enable appropriate siting and development of renewable energy projects on the public lands.

As you know, our nation needs to move aggressively forward with renewable energy development. Renewable energy will play a key role in reducing emissions of heat-trapping gases, and is an essential component in the future economic and energy security of our nation. America's public lands in the West are blessed with substantial solar energy resources and can play an important role in this regard. Of course, our public lands are managed for multiple uses including recreation, wildlife conservation, historical preservation, and wilderness. As with any activity, solar energy development will have environmental impacts and will not be appropriate for all places on the public lands, such as wilderness areas, wildlife refuges, and national parks. Fortunately, we have the opportunity to facilitate development of these resources in the best, most appropriate places.

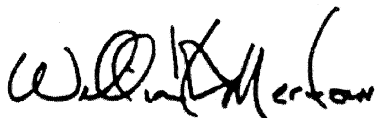
The Bureau of Land Management has announced that it will prepare Programmatic Environmental Impact Statement (PEIS) to determine where large-scale deployment is compatible with other land management goals. The Wilderness Society strongly supports this effort. While completing the PEIS, the agency has committed to processing pending applications and lifted its moratorium on new applications for developing large scale solar energy projects.

Despite lifting the moratorium on accepting solar project applications, BLM still faces a backlog of more than 130 applications representing a combined total of more than 70 gigawatts of solar potential in part as a consequence of this Administration's single-minded focus on issuing oil and gas drilling permits. Between 2001 and 2007, this Administration has processed 35,106 permits to drill for oil and gas projects, but has yet to process a single permit to develop solar energy even though some project applications have been in the queue since January 2005. The agency finds itself unprepared and without the required resources to address this mounting challenge.

In light of the significant work to be done, I am writing to encourage you to appropriate \$1 million to the BLM for the specific purpose of addressing the significant backlog of solar project permits. Pending and future applications should be prioritized by the agency to work down this backlog as expeditiously as possible. We believe a top priority for the agency is consideration of serious projects (such as those that have entered into power purchase agreements and have secured project financing), and moving forward with environmental review and siting of appropriate projects quickly and intelligently.

The Wilderness Society stands ready to assist the agency in preparing a robust PEIS and responsibly deploying solar and other renewable generation technologies on the public lands. If done well, the agency can assemble a coherent policy to develop solar energy resources on the public lands in a manner that provides the country with important renewable energy resources and is consistent with the agency's other land management responsibilities, including protecting wildlife, water quality, and America's special places.

Sincerely,

A handwritten signature in black ink, appearing to read "William H. Meadows". The signature is fluid and cursive, with the first name "William" and last name "Meadows" clearly legible.

William H. Meadows  
President

CC: Representative Norm Dicks  
Representative Todd Tiahrt

# **ATTACHMENT 2**



SCIENCE FROM



THE WILDERNESS SOCIETY



**NATURAL  
DIVIDENDS**

*Wildland Protection  
and the Changing  
Economy of the  
Rocky Mountain West*

MICHELLE HAEFELE, PH.D. • PETE MORTON, PH.D. • NADA CULVER



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September 2007



# **ATTACHMENT 3**



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IN THE UNITED STATES DISTRICT COURT  
DISTRICT OF UTAH, CENTRAL DIVISION

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STATE OF UTAH, *et al.*,

Plaintiffs,

vs.

GALE NORTON, in her official capacity as  
SECRETARY OF THE INTERIOR, *et al.*,

Defendants.

and

SOUTHERN UTAH WILDERNESS  
ALLIANCE, *et al.*,

Defendant-Intervenors

2:96CV0870 B

**UNOPPOSED JOINT MOTION OF THE  
UTAH PLAINTIFFS AND FEDERAL  
DEFENDANTS TO STAY BRIEFING  
AND FOR A STATUS CONFERENCE TO  
CONSIDER THEIR RULE 41(a)(2)  
MOTION TO DISMISS PURSUANT TO  
MODIFIED SETTLEMENT  
AGREEMENT**

Hon. Dee V. Benson

Plaintiffs, State of Utah, Utah School and Institutional Trust Lands Administration, and Utah Association of Counties (the "Utah Plaintiffs"), and the Federal Defendants hereby jointly request that this Court stay briefing and schedule a telephonic status conference to consider their Fed. R. Civ. P. 41(a)(2) motion to dismiss the Utah Plaintiffs' third amended and supplemented complaint pursuant to the modified settlement filed herewith, and to address whether the objections and claims raised by the Defendant-Intervenors, Southern Utah Wilderness Alliance *et al.* ("SUWA") are either mooted or rendered stale by the agreed upon modifications. Counsel for SUWA do not oppose this motion. This request is supported by good cause as set forth below:

1. The Court's April 14, 2003 Dismissal Order approving the Settlement Agreement incorporated its terms and retained jurisdiction over its enforcement, including the stipulation that the Bureau of Land Management ("BLM") will not establish, manage, or otherwise classify public lands, other than the Wilderness Study Areas ("WSAs") established pursuant to the Federal Land and Policy Act ("FLPMA") Section 603 wilderness review, as WSAs.

2. At the hearing on August 8, 2005, this Court vacated the Dismissal Order pending the conclusion of district court proceedings but left the underlying settlement intact. This Court also expressed concerns that continuing jurisdiction and enforcement as to future executive branch administrations would violate separation of powers principles, Hearing Transcript, pp. 17, 29, 40.

3. On August 18, 2005, the settling parties requested an unopposed extension of time to file responsive briefs to SUWA's dispositive motions from August 22, 2005 until September 9, 2005. The issues raised by the Court needed to be discussed with the respective clients, including whether some of the issues may drop out.

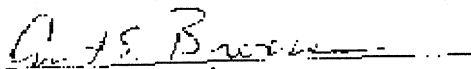
4. As a result of these discussions, Plaintiffs and Defendants have revised the settlement agreement and jointly move the Court to dismiss Plaintiffs' Third Amended and Supplemented Complaint. The revised executory settlement and proposed dismissal order remove the provisions for continuing jurisdiction from the settlement terms, and thus, the constitutional concerns raised by the Court are no longer implicated.

5. The modified executory settlement attached to the joint motion to dismiss now before the Court also disposes of SUWA's objection as to whether the consent decree unconstitutionally binds future administrations to a particular interpretation of FLPMA. Petition for Review 46-52.

6. A status conference, therefore, is requested for the Court to consider the Rule 41(a)(2) motion to dismiss, and to allow SUWA the opportunity to withdraw, revise, and/or supplement its objections based on the revision to the settlement. It would be a waste of judicial resources to continue briefing a superseded settlement, especially when the changes address both the Court's concerns and SUWA's objections. The Plaintiffs and Defendants request that the status conference be held telephonically.

WHEREFORE, the Utah Plaintiffs and Federal Defendants respectfully ask that the Court stay briefing and schedule a status conference to consider their Fed. R. Civ. P. 41(a)(2) motion to dismiss the Utah Plaintiffs' third amended complaint pursuant to the modified settlement, and to address SUWA objections and claims either mooted or rendered stale by the agreed upon modifications.

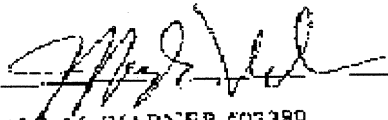
Respectfully submitted this 9<sup>th</sup> day of September, 2005.



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# **ATTACHMENT 4**

▷ Southern Utah Wilderness Alliance v. Norton  
 D.Utah,2006.

United States District Court,D. Utah,Central  
 Division.  
 SOUTHERN UTAH WILDERNESS ALLIANCE et  
 al., Plaintiffs,  
 v.  
 Gale NORTON, in her official capacity as Secretary  
 of the Interior et al., Defendants.  
 No. 2:04CV574 DAK.

Aug. 1, 2006.

**Background:** Environmental organizations brought  
 action against Department of Interior, challenging  
 Bureau of Land Management (BLM) sale and  
 issuance of sixteen oil and gas leases on public land.

**Holdings:** The District Court, Kimball, J., held that:  
 (1) BLM failed to take "hard look" at no-leasing  
 alternative, and  
 (2) BLM failed to consider supplemental information  
 about wilderness values and characteristics of  
 parcels.

Reversed and remanded.

West Headnotes

**[1] Environmental Law 149E ¶579**

149E Environmental Law  
 149EXII Assessments and Impact Statements  
 149Ek579 k. Purpose of Assessments and  
 Statements. Most Cited Cases  
 Determinations of NEPA Adequacy (DNAs) are not  
 themselves documents that may be tiered to National  
 Environmental Policy Act (NEPA) documents, but  
 are used to determine sufficiency of previously issued  
 NEPA documents. National Environmental Policy  
 Act of 1969, § 102(C), 42 U.S.C.A. § 4332(C).

**[2] Environmental Law 149E ¶582**

149E Environmental Law

149EXII Assessments and Impact Statements  
 149Ek580 Preliminary Assessment or Report  
 149Ek582 k. Necessity. Most Cited Cases

**Environmental Law 149E ¶595(5)**

149E Environmental Law  
 149EXII Assessments and Impact Statements  
 149Ek584 Necessity for Preparation of  
 Statement, Consideration of Factors, or Other  
 Compliance with Requirements  
 149Ek595 Particular Projects  
 149Ek595(5) k. Mining; Oil and Gas.  
Most Cited Cases

Bureau of Land Management (BLM), in selling and  
 issuing oil and gas leases on public land, failed to  
 take "hard look" at no-leasing alternative, as required  
 under National Environmental Policy Act (NEPA);  
 BLM field office was guided by environmental  
 analyses and land use plans that were over thirty  
 years old, which due to their age and antiquity did not  
 examine alternative in Federal Land Policy and  
 Management Act (FLPMA) land-use planning  
 context. National Environmental Policy Act of 1969,  
 § 102(E), 42 U.S.C.A. § 4332(E); Federal Land  
 Policy and Management Act of 1976, § 43 U.S.C.A.  
 § 603, 1782; 40 C.F.R. §§ 1502.14, 1508.9.

**[3] Environmental Law 149E ¶597**

149E Environmental Law  
 149EXII Assessments and Impact Statements  
 149Ek597 k. Updated or Supplemental  
 Statements; Recirculation. Most Cited Cases  
 Bureau of Land Management, in selling and issuing  
 oil and gas leases on public land, failed to consider  
 supplemental information about wilderness values  
 and characteristics of parcels, as required under  
 National Environmental Policy Act (NEPA);  
 significant new information became available which  
 post-dated BLM's NEPA analyses and land use plans  
 by several years to several decades. National  
 Environmental Policy Act of 1969, § 2 et seq., 42  
 U.S.C.A. § 4321 et seq.; 40 C.F.R. § 1502.9(c).

\*1253 Sharon Buccino, Natural Resources Defense  
 Council, Washington, DC, Stephen H. Bloch,

Southern Utah Wilderness Alliance, Salt Lake City, UT, for Plaintiffs.

Carlie Christensen, U.S. Attorney's Office, Salt Lake City, UT, Ruth A. Storey, U.S. Department of Justice, Washington, DC, for Defendants.

## MEMORANDUM DECISION AND ORDER

KIMBALL, District Judge.

This matter is before the court on Plaintiffs' challenge to the Utah Bureau of Land Management's February 2005 sale and issuance of sixteen oil and gas leases on Utah public land. A hearing on this matter was held on March 1, 2006. At the hearing, Plaintiffs Southern Utah Wilderness Alliance, the Natural Resources Defense\*1254 Council, and The Wilderness Society (collectively referred to as "SUWA") were represented by Steven H.M. Bloch and Sharon Buccino. The United States Department of Interior Utah State Office of the Bureau of Land Management (referred to as the "Utah BLM" or "BLM") was represented by Kelly A. Johnson.

Before the hearing, the court carefully considered the memoranda and other materials submitted by the parties. Since taking the appeal under advisement, the court has further considered the law and facts relating to the appeal. The court has also considered the Utah BLM's submission of supplemental authority, filed on June 2, 2006, and SUWA's response to that submission, filed on June 5, 2006. Now being fully advised, the court renders the following Memorandum Decision and Order.

### I. INTRODUCTION

In this action, SUWA challenges the sale and issuance of oil and gas leases for sixteen parcels of public lands in southern Utah. In April 2003, the State of Utah and the United States Department of Interior ("DOI") entered into a controversial settlement agreement, which allegedly ended the Interior Department's authority to establish new wilderness study areas. The November 2003 lease sale at issue here was one of the first lease sales to include several parcels of public lands that, according to the BLM's own Wilderness Inventory, are remarkable, wilderness quality landscapes. The leases were sold and issued by the Utah BLM, and each lease specifically authorized surface-disturbing activities on at least part of the leasehold. According

to SUWA, this lease sale sent an unmistakable message to the American public that oil and gas development had clearly become the agency's "No. 1 priority."

SUWA contends that in issuing the oil and gas leases, the Utah BLM failed to comply with the National Environmental Policy Act ("NEPA"), 42 U.S.C. §§ 4332, et seq., and the National Historic Preservation Act ("NHPA"), 16 U.S.C. §§ 470, et seq. Specifically, SUWA argues that the Utah BLM violated federal law in three independent ways.

First, it claims, the Utah BLM violated NEPA by issuing four leases in the area administered by the Richfield field office without taking a hard look at the no-leasing alternative. It contends that the Richfield field office, which oversees the Flat Tops area, is guided by environmental analyses and land use plans that are over thirty years old and that due to their age and antiquity, did not take a hard look at the no-leasing alternative in the Federal Land Policy and Management Act's ("FLPMA") land use planning context, in violation of NEPA.

Second, SUWA asserts that the Utah BLM violated NEPA by failing to consider significant new information about wilderness values and characteristics of all sixteen parcels. According to SUWA, this significant new information only became available in the late 1990's, and thus post-dated the Utah BLM's NEPA analyses and land use plans by several years to several decades.

Finally, SUWA contends that the Utah BLM violated the NHPA by failing to consult with the Utah State Historic Preservation Officer ("SHPO") about the effects of the leasing. Because of these alleged violations of federal law, SUWA seeks rescission of the sixteen oil and gas leases at issue in this case.

### II. BACKGROUND

#### A. BLM OIL AND GAS LEASING PROCEDURES

"The DOI manages the use of federal oil and gas resources through a three-phase \*1255 decision-making process. At the earliest and broadest level of decision-making, the DOI develops land use plans-

often referred to as resource management plans (RMPs). 'Generally a land use plan describes, for a particular area, allowable uses, goals for future condition of the land, and specific next steps.' *"Pennaco Energy, Inc. v. U.S. Dep't of the Interior* (*"Pennaco"*), 377 F.3d 1147, 1151 (10th Cir.2004)(internal citation omitted). "[T]he approval of an RMP is considered a major federal action significantly affecting the quality of the human environment, (*see* 43 C.F.R. § 1601.0-6), and an [environmental impact statement] is prepared as a step in the process of preparing the RMP." <sup>FN1</sup>*Southern Utah Wilderness Alliance*, 164 IBLA 118, 124 (2004). In its land use plans, the BLM classifies lands in a particular management area in one of four ways: (1) available for leasing with standard stipulations; (2) available for leasing with special stipulations; (3) available for leasing with no-surface occupancy stipulations; or (4) closed to leasing. These leasing classifications are made as part of the BLM's land use planning and resource allocation decisions and are made in conjunction with a NEPA analysis.

<sup>FN1</sup>. Some Utah BLM field offices are managed in whole or in part by management framework plans ("MFPs"), the predecessor documents to RMPs. *See* 43 C.F.R. § 1610.8; *Southern Utah Wilderness Alliance*, 164 IBLA at 124. BLM did not prepare EISs or other National Environmental Policy Act documents as part of the MFP approval process. *Id.*

Each BLM state office is required to conduct a competitive oil and gas lease sale at least four times a year if public lands are available for leasing and BLM receives nominations for leasing. 43 C.F.R. § 3120.1-2. Interested members of the public and industry nominate parcels for competitive lease by sending letters of interest to a particular BLM state office that identify specific tracts of land that are desired for lease. *Id.* § 3120.3. Prior to conducting a quarterly lease sale, the Utah BLM state office prepares a preliminary list of oil and gas lease parcels that may be offered at that sale.

Individual BLM field offices then prepare Determinations of NEPA Adequacy ("DNAs") for parcels within their respective jurisdictions to "determine whether [BLM] can properly rely on

existing NEPA documents;" that is, "whether the issuance of a particular oil and gas lease is consistent with the [governing] RMP" and its accompanying environmental impact statement ("EIS"). *Pennaco*, 377 F.3d at 1151, 1162. DNAs are an administrative convenience created by the BLM, and are not defined in NEPA or its implementing regulations issued by the Council of Environmental Quality. *See id.* at 1162.

When the DNA form is completed, the BLM field offices either recommend that proposed parcels be offered "as is," that they be offered with slightly modified legal descriptions or additional lease sale notices if appropriate, or that certain parcels not be offered for lease until additional NEPA documentation is prepared. Once the BLM field offices complete their DNAs and return them to the state office, a final sale list is prepared and the public is notified that a competitive lease sale will take place no less than 45 days after the date of posting. 43 C.F.R. § 3120.4-2. The Utah BLM generally provides a 45 day protest period where any member of the public may "protest" the inclusion of certain parcels in a particular lease sale. 43 C.F.R. §§ 4.21 and 3120.1-3. *See* Administrative Record ("AR") 0236; Notice of Competitive Lease Sale, September 25, 2003.

The lease sale itself is a public auction with leases sold to the highest bidder. 43 \*1256 C.F.R. § 3120.5. If not acquired on the day of the sale, leases remain available for purchase at a reduced rate over the next two years. *Id.* § 3120.6. Competitive and non-competitive leases have primary terms of 10 years and can be held indefinitely by production of hydrocarbons in paying quantities. *Id.* §§ 3110.3-1 and 3120.2. BLM completes the leasing transaction by "issuing" the lease to the high bidder after the lease sale. *Id.* § 3120.5-3. If a lease is protested by a member of the public, the lease is not issued until the protest is resolved.

A lessee has certain, defined surface use rights: "A lessee shall have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove, and dispose of all the leased resource in a leasehold ..." *Id.* § 3101.1-2. In sum, "in the fluid minerals program, [the point of irretrievable and irreversible] commitment occurs at the point of lease issuance." *Pennaco*, 377 F.3d at 1160 (quoting



*BLM Handbook for Planning for Fluid Mineral Resources*).

## B. UTAH BLM'S WILDERNESS QUALITY LANDS

Congress passed the Wilderness Act of 1964, 16 U.S.C. §§ 1131-36 to "secure for the American people of present and future generations the benefit of an enduring resource of wilderness." 16 U.S.C. § 1131(a). In 1976, Congress passed the Federal Land Policy and Management Act ("FLPMA"), 43 U.S.C. §§ 1701-84, which among many other things, made the varying landscapes managed by the Bureau of Land Management eligible for wilderness designation. 43 U.S.C. § 1782.

To facilitate Congress's evaluation and eventual designation of wilderness on BLM lands, FLPMA directed the agency to inventory and identify all of the lands under its management that remained eligible for wilderness protection. *Id.* In Utah, the BLM began this process in the late 1970's and completed both its initial and intensive inventories by 1980. *See generally, State of Utah v. Babbitt*, 137 F.3d 1193, 1198-99 (10th Cir.1998). In 1982, the agency concluded that only 3.2 million of the nearly 24 million acres of BLM lands in Utah qualified as wilderness and designated them as wilderness study areas ("WSAs"). *See id.* (describing history of Utah wilderness debate). Importantly, the BLM's land use plans and accompanying NEPA analyses that were prepared after the 1978-80 wilderness inventory-including the plans at issue in this case <sup>FN2</sup>-did not reanalyze the wilderness characteristics of lands that were passed over for wilderness study area status. Rather, the plans and NEPA analyses adopted the conclusion that lands not identified as WSAs did not contain wilderness characteristics (or their constituent elements, such as naturalness, outstanding opportunities for solitude or primitive and unconfined recreation).

<sup>FN2</sup>. This case focuses on three Utah BLM field offices-Moab, Vernal, and Richfield. The Moab field office is managed pursuant to the 1985 Grand RMP/EIS and 1988 Oil and Gas Supplemental environmental assessment ("EA"). The Vernal field office is managed pursuant to the 1994 Diamond Mountain RMP/EIS, the 1985 Book Cliffs

RMP/EIS, and the 1988 and 1989 Oil and Gas Supplemental EAs. The Richfield field office is managed pursuant to the 1975 Price Environmental Analysis Record, the 1982 Henry Mountain Management Framework Plan, and the 1988 Sevier and Henry Mountain Oil and Gas Supplemental EA.

In 1991, President George H.W. Bush recommended to Congress that only 1.9 million acres of Utah BLM wilderness study areas receive formal protection under the Wilderness Act. *Babbitt*, 137 F.3d at 1198-99. Congress did not act on this recommendation. *See id.* In 1996, the \*1257 Department of Interior instructed BLM to re-inventory that part of the 5.7 million acres of BLM lands that had not been designated as wilderness study areas but were identified in the then-current version of the proposed America's Redrock Wilderness Act. *See id. at 1197-1200*. In 1999, BLM published its finding and concluded that the agency's earlier inventory had overlooked 2.6 million acres of lands in Utah that possessed wilderness character. *See AR 0127-0129; U.S. Dep't of the Interior, Utah Wilderness Inventory ("Wilderness Inventory") (1999) at vii-ix, xiv-xv.*

As the BLM's Wilderness Inventory explained,

[t]he Secretary's instructions to the BLM were to "focus on the conditions on the disputed ground today, and to obtain the most professional, objective, and accurate report possible so we can put the inventory questions to rest and move on." [The Secretary] asked the BLM to assemble a team of experienced, career professionals and directed them to apply the same legal criteria used in the earlier inventory and the same definition of wilderness contained in the 1964 Wilderness Act.

AR 0127; *Id.* at vii (emphasis added). The BLM compiled comprehensive case files to support its findings that the 2.6 million acres of Utah BLM lands had wilderness characteristics, including numerous aerial and on-the-ground photographs, as well as detailed narratives with accompanying source materials. *See, e.g., AR 0043-0068; Desolation Canyon wilderness inventory evaluation (summarizing Desolation Canyon permanent wilderness inventory area case file)*. These inventoried wilderness quality lands have come to be known as wilderness inventory areas ("WIAs"). This

2.6 million acre inventory identified over 100 WIAs, including the following four areas: Desolation Canyon, Floy Canyon, Coal Canyon, and Flume Canyon WIAs.<sup>FN3</sup> Twelve of the sixteen parcels at issue in this case are located in these four WIAs.

FN3. These four areas have been proposed for wilderness protection in America's Redrock Wilderness Act (H.R. 1774/ S. 882).

Following a controversial settlement agreement between the State of Utah and the Interior Department in April 2003 which allegedly did away with the Interior Department's authority to establish new wilderness study areas (i.e., to fully consider the WIAs and designate some or all as WSAs), this lease sale marked one of the first times that BLM proposed to sell oil and gas leases in areas that BLM acknowledged had wilderness character. *See* AR 2403; Brent Israelsen, *Oil, gas leases up for bid in wilds*, THE SALT LAKE TRIBUNE (Oct. 31, 2003); AR 4533; Robert Gerhke, *Federal Gov't to Action Off Oil Leases*, ASSOCIATED PRESS (Oct. 30, 2003).<sup>FN4</sup> *See generally* *State of Utah v. Norton*, 2:96CV00870 (Stipulation and Joint Motion to Enter Order Approving Settlement and to Dismiss the Third Amended and Supplemented Complaint), 12-15 (D. Utah April 11, 2003); *State of Utah v. Norton*, 2:96CV00870 (Order Approving Settlement and to Dismiss the Third Amended and Supplemented Complaint) (D. Utah April 14, 2003); Joe Baird, *Judge says 'No More Wilderness' May Get Reviewed*, THE SALT LAKE TRIBUNE (July 29, 2006).

FN4. *See also*, *The End of Wilderness*, THE NEW YORK TIMES (May 4, 2003); Timothy Egan, *Bah, Wilderness! Reopening a Frontier to Development*, THE NEW YORK TIMES (May 4, 2003).

### 1. Desolation Canyon Wilderness Inventory Area

Lease parcels UT 026, UT 027, and UT 028 are located in northeastern Utah in the area designated by BLM as the Desolation Canyon WIA. Parcels UT 026 and UT 028 straddle the Desolation Canyon section of the Green River and parcel UT 027 is \*1258 located just west of the river. *See* AR 0041; Map-Vernal Area Lease Parcels. The BLM's

"wilderness inventory evaluation" of the Desolation Canyon WIA (unit 1) explained that the area has "natural, scenic, rugged terrain" and contains "outstanding opportunities for solitude and primitive and unconfined recreation [which] makes this area stand alone. Unit 1 is an extension of the Desolation Canyon WSA [wilderness study area] to the south and greatly enhances the wilderness values found in the WSA." AR 0045; Wilderness Inventory Evaluation, Desolation Canyon Units 1-9, at 3 (1998). BLM's Wilderness Inventory further stated that the Desolation Canyon wilderness inventory area "[i]n combination with the [Desolation Canyon wilderness study area], represents one of the largest blocks of roadless BLM lands within the continental United States." AR 0030; Utah Wilderness Inventory, at 127. The Desolation Canyon WIA, "together with the Desolation Canyon WSA, comprise[s] a large, remote area where a visitor is truly isolated from the outside world. The vast size, configuration, numerous scenic vistas, diversity of vegetation, and rugged topography provide the visitor with numerous places and opportunities to become isolated from others." *Id.* The BLM's 1998 wilderness inventory concluded for the first time that the lands making up the Desolation Canyon wilderness inventory area have wilderness character.

### 2. Book Cliffs-Floy, Flume, and Coal Canyon Wilderness Inventory Areas

Parcels UT 029, UT 030, UT 031, UT 034, UT 036, UT 037, UT 038, UT 039, and UT 053 are located in three areas on the southern flank of Utah's Book Cliffs that the BLM has designated as the Floy, Flume, and Coal Canyon WIAs. *See* AR 0081; Map-Moab Area Lease Parcels. The BLM's wilderness inventory evaluation for the Flume Canyon WIA explained that "[t]he Flume Canyon inventory area is one of seven contiguous inventory areas [including the Coal and Floy Canyon WIAs] across much of the Roan Cliffs and Book Cliffs, the longest continuous escarpment in the world." AR 0083; Flume Canyon wilderness inventory evaluation, at 1 (1998). BLM's 1998 wilderness inventory evaluation described the Floy Canyon WIA as follows:

Opportunities for solitude and primitive recreation are outstanding throughout the inventory area. Topographic and vegetative screening provide many places to be alone. The inventory area contains long

and deep canyons, unusual geologic features, visual diversity, and a variety of wildlife species. Wilderness values are enhanced by the contiguous Desolation Canyon and Floy Canyon Wilderness Study Areas (WSAs).

AR 0092; Floy Canyon wilderness inventory evaluation, at 1 (1998). BLM similarly described the Coal Canyon WIA as retaining “a natural condition with little or no evidence of the presence of man. Opportunities for solitude and primitive recreation are outstanding. The inventory area contains panoramic vistas, many long and deep canyons, perennial streams, and a broad variety of wildlife species.” AR 0101; Coal Canyon wilderness inventory evaluation, at 1 (1998).

The BLM's 1998 Wilderness Inventory concluded, for the first time, that the lands comprising the Floy Canyon, Flume Canyon and Coal Canyon wilderness inventory areas have wilderness character.

### 3. Flat Tops Proposed Wilderness Area<sup>FN5</sup>

<sup>FN5</sup>. The Flat Tops proposed wilderness unit is included in American's Redrock Wilderness Act and passage of the Act would designate that area as Wilderness.

The BLM also received new information from SUWA and others in 2002 about the \*1259 wilderness and other special values of four additional lease parcels-UT 008, UT 009, UT 011, and UT 012-located in the remote Flat Tops proposed wilderness area. *See* AR 3244-3279; Southern Utah Wilderness Alliance Supplemental and New Information re: Utah Wilderness Coalition's Flat Tops Proposed Wilderness Unit. *See also* AR 0111; Map-Hanksville Area Lease Parcels. These four parcels are located on lands in south-central Utah and are emblematic of the area's wild and remote redrock and desert landscape. In 2002, BLM reviewed SUWA's significant new information and determined that parcels UT 008, UT 009, UT 011, and UT 012 have a “reasonable probability” that they “may contain” wilderness characteristics. AR 4988-4994; Evaluation of New Information Suggesting that an Area of Public Lands Has Wilderness Characteristics (concluding that “the information SUWA provides is new and significantly different from that considered in the BLM's previous inventory.... BLM staff review concurs that the unit is

sufficiently large and varied to potentially provide outstanding opportunities for solitude.”)

### C. UTAH BLM'S NOVEMBER 2003 COMPETITIVE OIL AND GAS LEASE SALE

In the summer of 2003, the Utah BLM published a preliminary sale list for the quarterly competitive oil and gas lease sale to be held on November 24, 2003. AR 0431-0491. Utah BLM field offices prepared and completed DNAs in August and September of 2003. *See generally*, AR Volume 2. On September 25, the BLM notified the public that the agency intended to offer a total of 55 parcels at its November 24, 2003 oil and gas competitive lease sale. AR 0227-0231. The Utah BLM notified Native American Tribes about the lease sale, but neither notified nor consulted with the Utah State Historic Preservation Officer (“Utah SHPO”) regarding the sale or its impacts to cultural resources. *See* BLM Answer to Amended Complaint, ¶¶ 49-54. On October 2, 2003, the BLM issued a finding of no significant impact (“FONSI”) regarding the November 24 sale. AR 0225.

On November 10, 2003, Southern Utah Wilderness Alliance, The Wilderness Society, Natural Resources Defense Council, and others protested the inclusion of 21 parcels in the November 24 lease sale. AR 0003-0127; SUWA Protest. Of these 21 protested parcels, the following 16 parcels were sold either competitively on November 24 or at the “day-after” non-competitive sale on November 25, 2003: UT 008, UT 009, UT 011, UT 012, UT 026, UT 027, UT 028, UT 029, UT 030, UT 031, UT 034, UT 036, UT 037, UT 038, UT 039, and UT 053. AR 0193-0198; Competitive and Non-Competitive Lease Sale Results. All of the 16 protested and sold lease parcels include lands proposed for wilderness designation in America's Redrock Wilderness Act and all authorized some level of surface disturbance (i.e., sold without no surface occupancy stipulations). AR 0172-0175. SUWA alleged in its Protest of the November 24 lease sale that the BLM's decision to lease the 16 parcels violated NEPA, the NHPA, and other federal laws and their implementing regulations. AR 0003-0024.

The BLM denied SUWA's protest in its entirety on January 7, 2005, and completed the leasing transaction and issued the 16 leases at issue in this case in February 2005. AR 4702-4720; Protest

Decision.

### III. STANDARD OF REVIEW

Pursuant to the Administrative Procedures Act (the "APA"), this court must review BLM's actions to determine solely whether the action was "arbitrary, capricious,\*1260 an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. 706(2)(A).<sup>FN6</sup> See Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 109 S.Ct. 1851, 104 L.Ed.2d 377 (1989). This standard is narrow and "[t]he court is not empowered to substitute its judgment for that of the agency." Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 416, 91 S.Ct. 814, 28 L.Ed.2d 136 (1971); Olenhouse v. Commodity Credit Corp., 42 F.3d 1560, 1573 (10th Cir.1994). While the reviewing court must undertake a "thorough, probing, in-depth review," it is empowered to determine only whether "the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment." *Id.* at 415-16, 91 S.Ct. 814; see also Marsh, 490 U.S. at 378, 109 S.Ct. 1851. "In addition to requiring a reasoned basis for agency action, the 'arbitrary or capricious' standard requires an agency's action to be supported by the facts in the record." Olenhouse v. Commodity Credit Corp., 42 F.3d 1560, 1575 (10th Cir.1994); see also Pennaco, 377 F.3d at 1156.

FN6. Under Olenhouse v. Commodity Credit Corp., 42 F.3d 1560,1579-80 (10th Cir.1994), the court treats this matter as an appeal of an agency decision.

Plaintiffs have the burden of showing, pursuant to the standards set forth in the APA, that BLM acted in a manner that violates an underlying substantive statute, such as NEPA. See San Luis Obispo Mothers for Peace v. United States Nuclear Regulatory Comm'n, 789 F.2d 26, 37 (D.C.Cir.1986). Moreover, BLM is entitled to deference on technical issues within its area of expertise. See Morongo Band of Mission Indians v. Federal Aviation Admin., 161 F.3d 569, 576 (9th Cir.1998). An agency decision is arbitrary and capricious if

the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an

explanation for its decision that runs contrary to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

Motor Vehicle Mfrs. Ass'n. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43, 103 S.Ct. 2856, 77 L.Ed.2d 443 (1983); see also Colorado Envtl. Coalition v. Dombeck, 185 F.3d 1162, 1167 (10th Cir.1999) (same).

### IV. DISCUSSION

As stated above, SUWA contends that the Utah BLM has violated federal law in three independent ways. To the contrary, the Utah BLM urges the court to uphold its decision to sell the leases at issue. It argues that it has not violated either NEPA or the NHPA. Specifically, the Utah BLM claims that its analysis supporting the leases on the four parcels in the Richfield field office was adequate for the purposes of NEPA. It also argues that it was not required to supplement the environmental analysis to support the leasing decisions. It emphasizes that the question of whether information rises to the level of requiring additional analysis "is a classic example of a factual dispute the resolution of which implicates substantial agency expertise." Marsh, 490 U.S. at 376, 109 S.Ct. 1851. Therefore, "[c]ourts must uphold an agency determination that [supplemental review] is not required if that determination is not arbitrary and capricious." Oregon Natural Resources Council v. Lyng, 882 F.2d 1417, 1422 (9th Cir.1989), *rev'd on other grounds*, 980 F.2d 1330 (9th Cir.1992).

The Utah BLM contends that, through the DNA process, it carefully reviewed the existing environmental analysis and concluded that the NEPA documentation fully analyzed the values now labeled "wilderness\*1261 characteristics" such as scenery, wildlife, and the absence of human activity. AR at 565 (Moab), 651 (Richfield) and 705 (Vernal). It argues that the BLM reasonably determined that the information contained in BLM's 1999 Re-inventory did not rise to the level of significant new information requiring a new EA or EIS. AR at 4704. Utah BLM found that the any new information did not show that oil and gas leasing would impact the parcels in a significant manner or to a significant degree not already considered in the relevant NEPA documents. *Id.* In addition, it claims that the uses of

the lands have not significantly changed since the preparation of the land use planning documents and the anticipated oil and gas development scenario has not changed significantly from that analyzed in the environmental documents. *Id.*

Finally, the Utah BLM argues that it Complied with the National Historic Preservation Act. Although it denies any violations of federal law, it contends that, if the court decides otherwise, the appropriate remedy is remand-not rescission of the lease, as SUWA requests. See *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 549, 98 S.Ct. 1197, 55 L.Ed.2d 460 (1978); *Camp*, 411 U.S. at 143, 93 S.Ct. 1241.

#### A. THE NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (“NEPA”), 42 U.S.C. §§ 4321*et seq.*, is the “basic national charter for protection of the environment.” 40 C.F.R. § 1500.1. “NEPA ‘prescribes the necessary process’ by which federal agencies must ‘take a ‘hard look’ at the environmental consequences’ of the proposed courses of action.” *Pennaco*, 377 F.3d at 1150 (quoting *Utahns for Better Transp. v. U.S. Dep’t of Transp.*, 305 F.3d 1152, 1162-63 (10th Cir.2002)) (internal citation omitted). “[T]he statute does not impose substantive limits on agency conduct.” *Friends of the Bow v. Thompson*, 124 F.3d 1210, 1213 (10th Cir.1997) (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350, 109 S.Ct. 1835, 104 L.Ed.2d 351, (1989)). “Rather, once environmental concerns are ‘adequately identified and evaluated’ by the agency, NEPA places no further constraint on agency actions.” *Id.* (quoting *Robertson*, 490 U.S. at 350, 109 S.Ct. 1835). The fundamental objective of NEPA is to ensure that an “agency will not act on incomplete information only to regret its decision after it is too late to correct.” *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371, 109 S.Ct. 1851, 104 L.Ed.2d 377 (1989) (citation omitted).

[1] NEPA requires all federal agencies to prepare an “environmental impact statement” (“EIS”) before undertaking “major Federal actions significantly affecting the quality of the human environment Federal Land Policy and Management Act.” 42 U.S.C. § 4332(C). The Council on Environmental

Quality, an agency within the Executive Office of the President, has promulgated regulations implementing NEPA. Pursuant to those regulations, to determine whether an EIS is required, federal agencies may first prepare an environmental assessment (“EA”). See 40 C.F.R. § 1501.4. An EA must consider several factors to determine if an action will significantly affect the environment, thus requiring the preparation of an EIS. After considering the “significance” and other relevant factors in an EA, if an agency decides not to prepare an EIS, it must issue a FONSI to justify its decision not to prepare an EIS. 40 C.F.R. § 1508.13. The FONSI must provide a convincing statement of reasons why the action “will not have a significant effect on the human environment.” *Id.* “DNAs, unlike EAs and FONSI, are not mentioned in [ ] NEPA or in the regulations implementing [ ] NEPA’.... Thus, DNAs are not themselves documents that may be \*1262 tiered to NEPA documents, *but are used to determine the sufficiency of previously issued NEPA documents.*” *Southern Utah Wilderness Alliance*, 164 IBLA at 123 (quoting *Pennaco*, 377 F.3d at 1162).

NEPA further requires that federal agencies “shall ... study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternate uses of available resources,” 42 U.S.C. § 4332(E), and, accordingly, the EA must include a discussion of these mandated alternatives. See 40 C.F.R. § 1508.9. “In order to provide a ‘clear basis for choice among options by the decisionmaker and the public,’ an agency’s EIS must consider the ‘no-action’ alternative.” *Pennaco*, 377 F.3d at 1150 (quoting 40 C.F.R. § 1502.14).

In this case, the court finds that the Utah BLM violated NEPA in two independent ways: (1) it sold four leases in the Richfield field office without first preparing an adequate pre-leasing document and (2) it sold the challenged leases after arbitrarily determining that it did not need to supplement existing NEPA analyses in light of the agency’s own Wilderness Inventory and subsequent new information provided by Southern Utah Wilderness Alliance.

**1. The Utah BLM Failed to Prepare an Adequate Pre-Leasing NEPA Document to Support the Sale of Lease Parcels UT 008, UT009, UT011, and**

UT012.

In *Southern Utah Wilderness Alliance*, 164 IBLA 118 (2004), the Interior Board of Land Appeals (the “IBLA”) overturned a BLM decision to sell seven oil and gas leases in two field offices that were managed pursuant to Management Framework Plans (“MFPs”).<sup>FN7</sup> The IBLA held that BLM had failed to prepare an adequate pre-leasing document (EIS or EA) that analyzed the no-lease alternative to support the sale, and thus violated NEPA. *Id.* at 120-24. The IBLA discussed the important distinctions between management framework plans and resource management plans (“RMPs”):

<sup>FN7</sup>. The BLM did not seek reconsideration of this decision, and it therefore represents the final decision for the Department of the Interior. 43 C.F.R. § 4.1.

BLM's regulations make it clear that with respect to NEPA compliance, the environmental documents prepared in connection with RMPs and MFPs are not functional equivalents. Unlike the approval of an MFP, the approval of an RMP is considered a major federal action significantly affecting the quality of the human environment, (*see* 43 C.F.R. § 1601.0-6), and an EIS is prepared as a step in the process of preparing the RMP. *In this case, the approval of the MFPs was not deemed a major federal action significantly affecting the quality of the human environment and did not result in the preparation of an EIS that would qualify as a “pre-leasing” EIS.* 164 IBLA at 124 (emphasis added).

In that case, like here, the BLM relied on DNAs to assess whether “existing EAs and EISs were adequate to support the proposed leasing of the parcels” and whether the leasing of the parcels “would conform to existing land use plans.” *Id.* at 122. There, the BLM argued that NEPA analyses pre-dating FLPMA known as environmental analysis records or “EARs,” as well as MFPs, subsequent oil and gas supplemental environmental assessments, and the lease sale DNAs, together, contained sufficient pre-leasing NEPA analysis to support the lease sale. *Id.* at 123.<sup>FN8</sup> The IBLA reviewed the documents relied upon by BLM to support its leasing decision\*1263 and concluded that the agency had violated NEPA because it failed to consider the no-action alternative (no leasing) in the land use planning context prior to

the lease sale. *Id.* at 123-24.

<sup>FN8</sup>. EARs are NEPA documents tiered to management framework plans, as opposed to an earlier NEPA analysis (such as an RMP/EIS). *See Southern Utah Wilderness Alliance*, 164 IBLA at 124 (approval of MFPs not considered major federal action and “did not result in preparation of an EIS that would qualify as a ‘pre-leasing’ EIS.”).

Federal courts have arrived at the same conclusion in other cases that agencies violated NEPA by issuing oil and gas leases without considering the no-action alternative. *See Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228-30 (9th Cir.1988) (BLM and Forest Service violated NEPA by failing to consider no-action (no leasing) alternative); *Montana Wilderness Ass'n v. Fry*, 310 F.Supp.2d 1127, 1145-46 (D.Mont.2004) (BLM violated NEPA by failing to consider no-action alternative).

[2] The holding in *Southern Utah Wilderness Alliance* makes clear that the Utah BLM's decision in this case to lease the four Richfield field office parcels violated NEPA. The Richfield field office DNA and BLM's Protest Decision primarily rely on the 1975 Price Environmental Analysis Record (“Price EAR”), a document that was not prepared in conjunction with any land use plan, for support of the agency's decision to lease. *See* AR 2679-2927; Price EAR. Indeed, the Price EAR and its alternatives analysis, as well as its leasing category decisions were not made contemporaneously with land use planning decisions, but rather were tiered to MFPs prepared between 1968 to 1974. *See* AR 2683-84 (listing MFPs).

Moreover, the Henry Mountain Management Framework Plan (“Henry Mountain MFP”), the land use plan governing management for the areas of the Richfield field office at issue in this case, was finalized seven years after the Price EAR, in 1982. Because BLM did not consider preparation of the Henry Mountain MFP a “major federal action,” that document was not accompanied by an EIS or EA. *See* AR 2983. In preparing the Henry Mountain MFP BLM did not conduct a separate alternatives analysis or meaningfully consider the no-leasing alternative.<sup>FN9</sup> Rather, BLM adopted the leasing decisions made in the earlier Price EAR: “the Henry

Mountain MFP allowed for leasing decisions consistent with the environmental analysis” found in the 1975 Price EAR. AR 04956; Richfield field office DNA, at 3.

FN9. The BLM contends that SUWA's argument that the Price EAR failed to consider a no-leasing alternative is factually incorrect. See Opposition Brief at 8 n. 4. The court applies a “rule of reason analysis to determine whether the range of alternatives the BLM considered and the extent to which it discuss[ed] them,” was adequate. *Utahns for Better Trans. v. Department of Transp.*, 305 F.3d 1152, 1166-67 (10th Cir.2002) (citation omitted); *Davis v. Mineta*, 302 F.3d 1104, 1120 (10th Cir.2002). Neither the Price nor Richfield EAR gave the necessary “full and meaningful consideration” to the no-leasing alternative-or any other alternatives to the proposed action-as required by NEPA.

In 1988, the Utah BLM prepared the Sevier River and Henry Mountain Supplemental Oil and Gas Leasing EA (“Supplemental EA”), which tiered to, among other documents, the Price EAR. AR 2992-3039. See AR 4956, Richfield field office DNA, at 3 (explaining that “[b]y oversight the 1975 [Price EAR] was not cited in the 1988 [Supplemental] EA”). Like the Henry Mountain MFP, the Supplemental EA relied on the earlier alternatives analysis from the Price EAR that failed to consider the no-action alternative in the context of land use planning. See AR 3000-3001.<sup>FN10</sup>

FN10. In 1984, the Utah BLM prepared the Utah Combined Hydrocarbon Leasing Regional EIS, which dealt with new tar sands leasing and converting existing leases to combined hydrocarbon leases. This EIS, however, did not change the earlier analysis of alternatives found in the Price EAR. AR 2984.

\*1264 In sum, BLM's decision to sell and issue the following four Richfield field office leases-UT 008, UT 009, UT 011, and UT 012-was not supported by an adequate pre-leasing NEPA analysis (EA or EIS). This failure, like BLM's failure in *Southern Utah Wilderness Alliance* to consider the no-lease

alternative in the context of land use planning decisions, is fatal to the agency's leasing decision. Accordingly, BLM's decision to lease these parcels was contrary to NEPA and must be set aside.

## **2. As to All 16 Leases at Issue, the Utah BLM Violated NEPA's Supplemental Analysis Requirement**

An agency's NEPA duties do not end when it completes its initial environmental analysis and approves a federal project. As the Supreme Court has explained, “[i]t would be incongruous with ... the Act's manifest concern with preventing uninformed action, for the blinders to adverse environmental effects, once unequivocally removed, to be restored prior to the completion of agency action simply because the relevant proposal has received initial approval.” *Marsh*, 490 U.S. at 371, 109 S.Ct. 1851. Thus,

[i]f there remains “major federal action” to occur, and if ... new information is sufficient to show that the remaining action will “affect[t] the quality of the human environment”... to a significant extent not already considered, a supplemental EIS must be prepared.

*Id.* at 374, 109 S.Ct. 1851; see also 40 C.F.R. § 1502.9(c) (regulations mandating supplementation); *Friends of the Clearwater v. Dombek*, 222 F.3d 552, 557 (9th Cir.2000) (agencies must “be alert to new information that may alter the results of its original environmental analysis, and continue to take a ‘hard look at the environmental effects of [its] planned action.’”) (quoting *Marsh*, 490 U.S. at 374, 109 S.Ct. 1851). NEPA's duty to supplement applies equally to environmental impact statements and environmental assessments. *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1152 (9th Cir.1998).

[3] In this case, the Utah BLM authorized this lease sale, not on the basis of a newly drafted EA or EIS that might have considered the latest information before the agency, but rather pursuant to “Determinations of NEPA Adequacy” (“DNAs”) which purported to determine that “previously issued NEPA documents” sufficiently addressed the specific wilderness character information contained in BLM's own recent Wilderness Inventory Report and comprehensive wilderness case files. AR 0070-0079;

BLM Instruction Memorandum No.2001-062 (DNA's are an internal review process which assists BLM in determining "whether [it] can rely on existing NEPA documents for a current proposed action"). In short, the DNAs prepared to allegedly support this sale are not new NEPA analyses, and the underpinnings of the Utah BLM's decision here not to supplement its outdated EISs and EAs must rise or fall on the contents of the previously issued NEPA documents.

The court finds that the Utah BLM ignored significant new information when it decided to lease the sixteen parcels at issue without first conducting a supplemental NEPA analysis. The Utah BLM's own files-as well as information provided by the Southern Utah Wilderness Alliance-presented a textbook example of significant new information about the affected environment (the wilderness attributes and characteristics of the Desolation Canyon, Floy Canyon, Flume Canyon, Coal Canyon, and Flat Tops unit) that would be impacted by oil and gas development;\*1265 information that was not reflected in BLM's existing NEPA analyses. The BLM's Wilderness Inventory and SUWA's Flat Tops wilderness proposal postdate by several years (in some cases by decades) its land use plans and NEPA analyses that govern the lands at issue here. The Utah BLM did not revise its NEPA analyses to reflect this significant new information before selling the leases at issue here.

*a. Moab field office-Floy, Flume, and Coal Canyon WIAs*

The nine parcels located in the Floy, Flume, and Coal Canyon WIAs are located on lands managed by BLM's Moab field office, and that office's management is guided by the 1985 Grand RMP/EIS and a 1988 oil and gas leasing environmental assessment ("1988 Oil and Gas EA"). AR 4875; Moab field office DNA, at unnumbered 2. When those documents were prepared, BLM did not know that the lands in question had wilderness characteristics because its prior inventory (conducted between 1978-80) had concluded that they did not. AR 4704 n. 1; Protest Decision, at 3 n. 1. Thus, it is not surprising that a detailed review of the Grand RMP/EIS and the 1988 Oil and Gas EA reveals that neither of these documents contains any specific information about the wilderness qualities of the Floy, Flume, and Coal Canyon WIAs proposed for

leasing at the November 2003 lease sale, or any site-specific analysis of the impacts to those qualities.

For example, the Moab DNA states that the Oil and Gas EA "addresses impact to overall recreational opportunities," citing an excerpt from the EA which states that the Grand RMP's oil and gas leasing categories "adequately protect the recreation resource values in 22 areas identified in the Grand RMP as having exceptional values." AR 4914; Moab DNA, Wilderness Characteristics Analysis, at 1 (citing AR 2513; 1988 Oil and Gas EA at unnumbered 5). This statement is repeated verbatim for each of the nine WIA proposed lease parcels. AR 4909-14; Moab DNA, Wilderness Characteristics Analysis, 1-4.

The Grand RMP/EIS, however, addressed only recreation values as they existed in 1985-the date that document was finalized-and not the specific wilderness characteristics (including outstanding opportunities for primitive and unconfined recreation) identified in the Wilderness Inventory. In other words, because BLM's 1998 wilderness inventory determined that the Floy, Flume, and Coal Canyon WIAs contain remarkable wilderness character, something that the 1985 Grand RMP/EIS and the 1988 Oil and Gas EA failed to acknowledge, but that the Utah BLM later found to exist, BLM cannot reasonably rely on its outdated planning documents to argue that these values were previously identified or that the impacts of oil and gas development on them were previously evaluated.

In addition, for each of the nine WIA parcels, the Moab field office DNA incorrectly states that the 1988 Oil and Gas EA "specifically addresses the effects of leasing on wildlife, recreation, visual resources, vegetation, soil and water quality," and suggests that this analysis was sufficient to support leasing. AR 4914, Moab DNA, Wilderness Characteristics Analysis, at 1. To the contrary, the 1988 Oil and Gas EA and 1985 Grand RMP/EIS contain only the broadest discussion of the effects of leasing over 1.8 million acres of public lands, and these documents certainly do not contain any site specific analysis as to the resources found on each of these nine parcels or the impacts on them that will result from leasing and development. Moreover, because the Wilderness Inventory contains detailed new information about many of these very same resources, including recreation, visual resources, and



wildlife, it \*1266 represents the best and most current information that must be considered.

In its Protest Decision, the Utah BLM echoed the conclusions in the Moab DNA that alleged that the general discussion in the 1985 Grand RMP/EIS and in the 1988 Oil and Gas EA, though broad and not containing any of the site-specific information contained in BLM's Wilderness Inventory and comprehensive case files, sufficiently addressed the impacts of oil and gas leasing and development "on those values comprising the wilderness characteristics of Floy, Coal, and Flume Canyons." AR 4707; Protest Decision at 6 (citing AR 4874-76, unnumbered Moab DNA at 1-3). Thus, though the BLM admits that its earlier NEPA analyses and land use plans do not include the detailed information found in its own Wilderness Inventory about the Floy, Flume, and Coal Canyon WIAs, the agency attempts to explain away the significance of this new information by arguing that its earlier documents *generally* dealt with the issue. *Id.*

The court finds that the Utah BLM arbitrarily ignored new information (information produced by the agency itself) in an effort to approve oil and gas leasing and ultimately development of these lands. BLM cannot know what the environment effects of leasing and development will be to the specific wilderness values, in these specific places, if it declines to undertake the necessary supplemental analysis to evaluate whether its current leasing categories adequately protect these newly identified resources. *Marsh*, 490 U.S. at 371, 109 S.Ct. 1851 (NEPA's "manifest concern [is] with preventing uninformed action"). In short, BLM's decision to proceed with leasing parcels UT 029, UT 030, UT 031, UT 034, UT 036, UT 037, UT 038, UT 039, and UT 053 without supplementing its existing NEPA analysis, and thus without adequate NEPA analyses to rely upon, was arbitrary, capricious, and contrary to law, and it must be set aside.

#### ***b. Vernal field office-Desolation Canyon WIA***

Because the Utah BLM had already concluded in 1998 that the Desolation Canyon WIA contains wilderness characteristics that had not previously been identified in either the Book Cliffs or Diamond Mountain RMPs or any other land use plan or NEPA analysis, the Vernal field office DNA admits that the

"recent change in the sensitivity (i.e. condition) of those characteristics may have raised new heightened concerns for this area. These heightened concerns should be afforded a new review and assessment of options in the planning arena and reassessed/reanalyzed in a[sic] updated NEPA document." AR 4776; Vernal DNA at 34 (emphasis added). *See id.* ("There is new information that outlines/provides an opportunity for a change in resource values/perception of values (i.e. change of condition) that may warrant a reassessment.")<sup>FN11</sup> The Utah BLM's Protest Decision, however, appears to minimize the importance of this significant admission by stating that "the quoted language merely suggests that these values be considered in the 'planning arena,'" and thus, BLM contends, leasing based on existing analyses was appropriate. AR 4706; Protest Decision, at 5.

<sup>FN11</sup> *See also* AR 3821-23; November Lease Sale Screening (Aug. 7, 2003) (Vernal BLM wilderness reviewer stated that leasing of parcels UT 026, UT 027, and UT 028 should be deferred "until an EA can be completed analyzing the wilderness values for Nutters Hole [located in the Desolation Canyon WIA];" this statement was later changed to reflect the language found at AR 4776).

The candid statement in the Vernal DNA supports the conclusion that the BLM improperly decided to proceed with \*1267 leasing the three parcels, while recognizing that there is new information that may change the leasing categories or other land use allocations for these stunning public lands. As SUWA argues, NEPA does not sanction this approach of "lease now, think later." To the contrary, NEPA required that BLM postpone leasing in areas where the agency had significant new information about wilderness values that had not been adequately accounted for.<sup>FN12</sup>

<sup>FN12</sup> The BLM also argues that because it places no surface occupancy on some-but not all-of the three Desolation Canyon parcels, it was not required to supplement its NEPA analyses prior to leasing. AR 4706; Protest Decision at 5. It contends that these stipulations and thus its existing land use plans and NEPA documents "analyzed the

effects of oil and gas leasing on those values comprising the wilderness characteristics of Desolation Canyon and took appropriate measures to protect those values.” *Id.* To the contrary, BLM's Desolation Canyon WIA encompasses both the river corridor comprising Desolation Canyon itself, as well as the public lands for several miles on either side. *See* AR 0030; Wilderness Inventory at 127 (the Desolation Canyon WIA “terrain varies dramatically, from river bottoms and flood plains at about 4,200 feet elevation to the high ridges of the Tavaputs Plateau at 9,500 feet.”). BLM's attempt to narrow the breadth and scope of the wilderness values found in the Desolation Canyon WIA—an area that “in combination with the Desolation Canyon WSA ... represent[s] one of the largest blocks of roadless BLM public lands within the continental United States”—to cover only the Canyon itself fails.

Moreover, BLM cannot reasonably claim that it has ever taken a hard look at the impact that oil and gas development would have on the wilderness characteristics of the Desolation Canyon WIA. The 1998 Desolation Canyon wilderness inventory case file post-dates the 1984 Book Cliffs RMP/EIS and the 1991 Diamond Mountain RMP/EIS by fourteen and seven years, respectively. At the time BLM prepared these NEPA analyses and land use plans, the agency did not know or acknowledge that the area contained wilderness quality lands. Hence, these documents did not contain the type of site-specific information about the wilderness characteristics of the Desolation Canyon WIA that was provided in the BLM's own 1998 wilderness inventory evaluation, nor could either document analyze the impacts of energy development on those specific characteristics.

In sum, the BLM's wilderness inventory evaluation constitutes precisely the type of significant new information that required additional environmental analysis before BLM approved the November 2003 lease sale. BLM's decision to lease these parcels without conducting a supplemental NEPA analysis was arbitrary and capricious and must be set aside.

***c. Richfield field office-Flat Tops proposed wilderness area***

The BLM's Richfield field office arbitrarily determined that it was appropriate to lease the following four parcels, all of which are located in the Flat Tops citizen's proposed wilderness area: UT 008, UT 009, UT 011, and UT 012. AR 4708-10; Protest Decision at 7-9. In 2002, SUWA provided new and significant information to BLM regarding the wilderness characteristics of the Flat Tops proposed wilderness area. AR 4959; Richfield DNA, at 6. *See* AR 3244-3279; Southern Utah Wilderness Alliance Supplemental and New Information Re: Utah Wilderness Coalition's Flat Tops Proposed Wilderness Unit. Later in 2002, BLM reviewed SUWA's submission and determined that it was significant new information:

Because SUWA proposes a completely different unit boundary than the BLM considered in their previous inventory of the Dirty Devil Unit, and which is well in excess of 5,000 acres in size; excludes impacts the BLM found to disqualify\*1268 the area in their previous inventory; provides additional information on opportunities for solitude and primitive recreation; and provides additional information on supplemental wilderness values, *the BLM concludes that the information SUWA provides is new and significantly different from that considered in the BLM's previous inventory.*

AR 4988-4993; Evaluation of New Information Suggesting that an Area of Public Lands Has Wilderness Characteristics (emphasis added). Based on SUWA's significant new information and BLM's assessment of that information, the agency determined that there is a “reasonable probability” that the proposed Flat Tops unit has or “may have” wilderness characteristics. AR 4991.

The BLM's Protest Decision, however, concluded that, despite the Richfield field office's earlier admission that SUWA's information was “*new and significantly different from that considered in the BLM's previous inventory,*” an earlier NEPA analysis—the 1975 Price EAR adequately addressed the wilderness characteristics identified by SUWA. AR 4959; Richfield field office DNA, at 6. BLM's Protest Decision cites a single page of this document to argue that “[t]he EA cites the impacts to open space and room-to-roam on page 59. The information provided is relevant to the actual activities occurring

on the ground. While the impacts to primitive recreation were addressed broadly, they were addressed sufficiently for the purposes of leasing.” AR 4710; Protest Decision, at 9. The full sentence in the Price EAR relied upon by BLM reads as follows: “The proposed action [authorizing oil and gas leasing across millions of acres] could produce marked changes in the open-space and *room-to-roam mood* of parts of the district.” AR 2741; Price EAR, at 59 (emphasis added). This sentence does not support the BLM’s decision to sell these four leases without first conducting a supplemental NEPA analysis. AR 5000; References to the 1975 Price District Oil and Gas EA, Richfield field office.<sup>FN13</sup>

FN13. This table did not accompany BLM’s Richfield field office DNA that approved leasing, but was prepared specifically for BLM’s Protest Decision. Compare AR 0652-694; September 25, 2005 Richfield field office DNA with AR 4951-5020; BLM Protest Decision (including Richfield field office DNA and undated “References to the 1975 Price District Oil and Gas EA, Richfield field office”).

Overall, the BLM’s attempt to interpret the Price EAR’s broad statements to support its conclusion that SUWA’s significant new information did not trigger the need for a supplemental NEPA analysis is unpersuasive. Setting aside the fact that the Price EAR is: (1) now thirty years old, (2) relied upon MFPs prepared in the late 1960’s and early 1970’s, and (3) was prepared prior to the enactment of FLPMA and thus without that statute’s multiple-use mandate to guide it, the EAR purported to address the impacts of oil and gas leasing and development on over 3.1 million acres of public lands in south-central Utah.

This document simply does not—indeed, it could not—contain the type of site-specific information provided in SUWA’s Flat Tops submission. AR 2683; Price EAR, at 1. NEPA does not require that a federal agency supplement its NEPA analyses “every time new information comes to light,” but rather only “if the new information is sufficient to show [the proposed action] will affect the quality of the human environment in a significant manner or to a significant extent not already considered.” *Marsh*, 490 U.S. at 373-74, 109 S.Ct. 1851 (internal citations

omitted). In this case, BLM’s interpretation of the \*1269 Price EAR and its resulting refusal to postpone leasing until the agency conducted a supplemental NEPA analysis was arbitrary and capricious. Accordingly, the BLM’s decision to lease these four parcels must be set aside as a violation of NEPA.

Regarding all sixteen parcels, the BLM’s NEPA documentation simply did not permit the BLM to take the NEPA-required hard look at the potential environmental impacts of the proposed action.

## B. NATIONAL HISTORIC PRESERVATION ACT

In light of the court’s conclusion regarding the Utah BLM’s NEPA violations, it is unnecessary for the court to reach SUWA’s claim that the Utah BLM also violated the NHPA.

## V. CONCLUSION

For the foregoing reasons, IT IS HEREBY ORDERED that the Utah BLM’s decision denying SUWA’s protest and its decision to lease the 16 parcels at issue here is REVERSED and REMANDED for further consideration consistent with the court’s decision that the Utah BLM violated NEPA by issuing four leases in the area administered by the Richfield field office without taking a hard look at the no-leasing alternative and by failing to consider significant new information about wilderness values and characteristics of all sixteen parcels. This case is now closed.

D. Utah, 2006.  
Southern Utah Wilderness Alliance v. Norton  
457 F.Supp.2d 1253

END OF DOCUMENT

# **ATTACHMENT 5**

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Re Wilderness Society  
Attachment to Stopping  
Comments on Solar PEIS-  
Proposed Wilderness GIS Layers

# **ATTACHMENT 6**



THE  
WILDERNESS  
SOCIETY

ECOLOGY AND ECONOMICS  
RESEARCH DEPARTMENT

## SOCIO-ECONOMIC FRAMEWORK FOR PUBLIC LAND MANAGEMENT PLANNING: INDICATORS FOR THE WEST'S ECONOMY

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Pete Morton, Ph.D.  
Nada Culver  
March 2, 2006

### I. PURPOSE

This brief is submitted as part of the NEPA process for this land use proposal. It is intended to identify issues that must be analyzed in the plan and offer methodologies to assist agencies responsible for analyzing the socio-economic impacts of proposed land use decisions on Western economies.

In making land use decisions, federal agencies have an obligation under the National Environmental Policy Act (NEPA) to take a "hard look" at the environmental consequences of a proposed action, and the requisite analysis "must be appropriate to the action in question." This brief presents a framework and indicators to be used in analyzing the impact of public land management proposals on the economies of Western communities. Federal agencies cannot evaluate the consequences of proposed decisions or determine how best to avoid or mitigate negative impacts without adequate data and analysis. Through the application of the methodology we have provided below, using data collected from identified sources and measuring potential impacts through key indicators, federal agencies can better fulfill their obligations to evaluate the direct, indirect, and cumulative socio-economic impacts of various alternative decisions.

### II. INTRODUCTION

We have organized this paper to facilitate the identification of key issues related to the impact of federal public land decisions on Western economies, and to provide key indicators for analyzing the impacts of those decisions on the economy of the West. The first section describes the changing economy of the western region, and how public land management planners should evaluate the economic impacts of land management alternatives. Next, we present key economic indicators with which to measure the vigor of the West's economy and discuss the implications of these indicators for the selection and analysis of land management alternatives.<sup>1</sup> The third section presents sources of data that are readily available at the state and county level, to which land managers should refer when preparing economic analyses for public lands. Next we outline the methodology we recommend agencies use to analyze the economies of western communities, in order to fully account for information that is traditionally absent in public land management assessments. Finally we provide a detailed list of our NEPA scoping questions, including specific recommendations for analyzing economic trends and conditions affected by the proposed management decisions.

These analyses and methods provide a necessary, but by no means sufficient, framework for the evaluation of proposed land management decisions. Socio-economic impacts are only one facet of the total impact of such decisions on communities. Western federal public lands belong to all Americans, and in order to fully evaluate the merits of land management decisions a complete benefit-cost analysis, including non-market values, must be made. While the specific methods for benefit-cost analyses are beyond the scope of this brief, we expect the agency to implement benefit-cost analyses in addition to the requested socio-economic impact analyses outlined here.

### III. OVERVIEW OF THE WESTERN ECONOMY

In the last 30 years, the West has evolved from a region largely focused on extractive industries into a much more diverse area with a more diversified economy (Bennett and McBeth 1998, Johnson 2001). Table 1 shows the current proportion of total personal income from resource extraction industries in the Rocky Mountains. Recent research shows that most western counties are not "resource dependent," and have instead developed diversified economies

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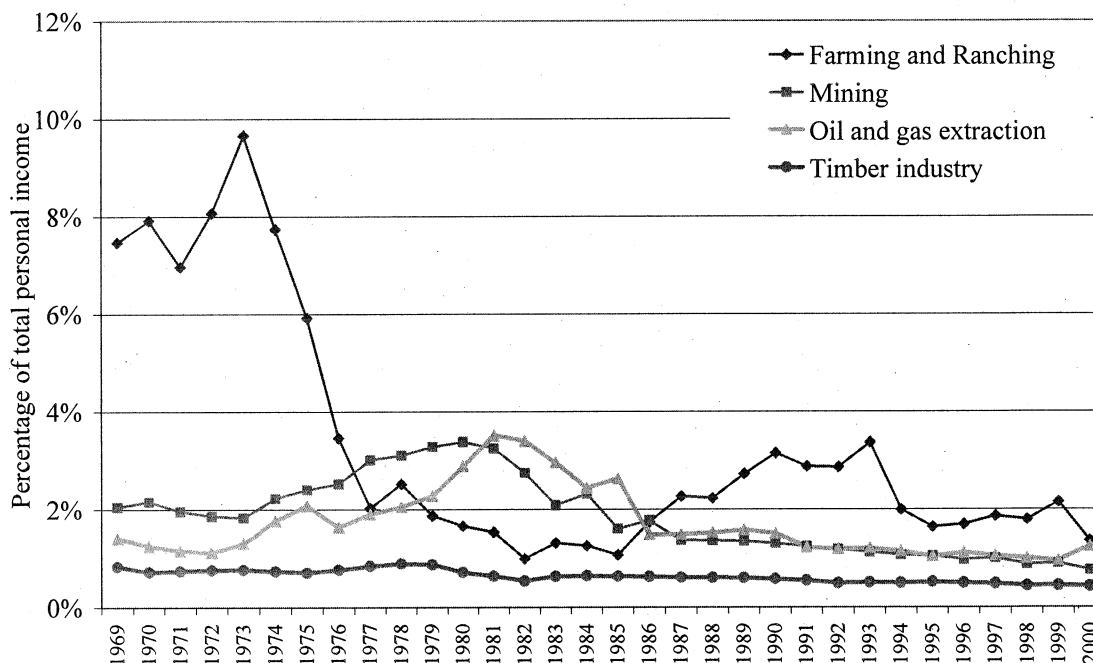
<sup>1</sup> We provide examples of the statistics and data available to analyze each of the key indicators. These examples focus on the five Rocky Mountain states, but the methods and analyses presented apply to other states throughout the region. The states we focus on in this brief are: Colorado, Montana, New Mexico, Utah, and Wyoming. The Western states, especially the Rocky Mountains, are currently facing accelerated development of oil and gas on their federal public lands while at the same time realizing the potential embodied in the amenity-based economy.

based on recreation, tourism, knowledge-based industries and the service sector. A recent study examining the impact of public lands on economic well-being in 11 western states found that only 3 percent of western counties could be classified as resource-extraction dependent (Rasker et al. 2004). Figure 1 shows the 30-year trend in resource extractive industry income in the Rocky Mountain Region. Public land management decisions all too often rely on a misconception of a resource-extraction-dependent rural West. Given the changing nature of the western economy, such assumptions exclude important non-extractive economic drivers and may even harm the economy of the region in the long run by depleting the natural capital responsible for the economic growth of Western communities.

Table 1. Extractive Industry Income as a Percentage of Total Personal Income (2003)

	Colorado	Montana	New Mexico	Utah	Wyoming	Rocky Mountains
Farming and ranching	0.77%	1.19%	2.52%	0.73%	2.11%	1.14%
Mining (excluding oil and gas extraction)	0.47%	1.49%	1.41%	0.71%	6.99%	1.09%
Oil and gas extraction	0.88%	0.44%	1.10%	0.16%	2.79%	0.84%
Timber industry	0.25%	1.40%	0.19%	0.39%	0.23%	0.35%
Total extractive industry income	2.37%	4.52%	5.22%	1.99%	12.11%	3.43%

Source: Regional Economic Information System, Bureau of Economic Analysis (<http://www.bea.doc.gov>)



Source: Regional Economic Information System, Bureau of Economic Analysis

Farming and Ranching: "Farm proprietors' income," "Farm earnings," "Agricultural services," and "Fishing"

Timber Industry: "Forestry," "Lumber and wood products," and "Paper and allied products"

Mining: Includes all segments of Mining sector except "Oil and gas extraction"

Note: The figure is based on SIC data for 1969-2000 in order to show the long-term trend. While not explicitly compatible, NAICS data for 2001-2003 show similar trends for extractive industry income and illustrate the general downward trend, even during the current oil and gas drilling boom in the Rockies.

Figure 1. Resource Extractive Industry Income in the Rocky Mountain Region

As the economies of rural communities in the West diversify, the framework for making public land management decisions must also evolve. Merely counting jobs in resource extraction is not a sufficient way to measure the economic impact of public land management decisions. Many of these communities have diversified economies that



are no longer solely dependent on the export of fossil fuels or logs. Management plans for public lands need to account for all aspects of the economic and social systems of these communities, including recreation, tourism, and entrepreneurial businesses attracted to scenic locations, when evaluating alternatives.

There is a vast and growing body of research that indicates that the environmental amenities provided by public lands are an important economic driver in the rural West (Rudzitis and Johansen 1989; Johnson and Rasker 1993, 1995; Rasker 1994; Power 1995, 1996; Duffy-Deno 1998; Rudzitis 1999; Rasker et al. 2004; Holmes and Hecox 2004). In a letter to the President and the Governors of the western states, economists from universities and other organizations throughout the United States pointed out that, "The West's natural environment is, arguably, its greatest long-run economic strength" (Whitelaw et al. 2003).

The western United States is growing at a rate faster than any other region (U.S. Census Bureau 2001), and, counter to the norm, population growth has preceded employment growth in the rural West (Vias 1999), indicating that people migrate to the region for its amenity resources. Furthermore, counties with high levels of natural amenities (such as varied topography, access to water bodies, and a pleasant climate) are more likely to experience higher growth than those counties with fewer such amenities (McGranahan 1999). Along with that growth comes demographic change. As Shumway and Otterstrom (2001) point out, "Population change represents more than a simple redistribution of people; it is an indicator and, in many instances an instigator, of a wide range of economic, social, cultural, political/policy, and environmental changes." As more people move from urban areas to rural communities they bring with them expectations about how local public lands ought to be managed. Changing community values must be accounted for in land management planning.

Management plans for the public lands in the West must consider the increasing importance of industries and economic sectors that rely on these public lands, but not necessarily on the extraction of natural resources. As the population of the entire country grows, the presence of undeveloped lands becomes more and more important. Indeed, much recent research has concluded that the presence of protected public lands strengthen western rural economies by meeting growing needs for clean water, wildlife habitat and recreation opportunities (Power 1995, 1996; Rasker 1994; Rasker et al. 2004; Rudzitis 1999; Rudzitis and Johansen 1989; Johnson and Rasker 1993, 1995; Whitelaw et al. 2004).

#### **IV. KEY ECONOMIC INDICATORS OF THE WEST'S ECONOMY**

The West's economy is characterized by many indicators that must be considered in the economic analyses performed by land management agencies; we have selected only a few to focus on in this brief. These include the growing importance of non-labor income from investments and retirement; increasing employment in high technology, knowledge-based, and service industries; the important role that recreation and tourism plays in providing jobs and income; and the rise of small businesses and other entrepreneurial endeavors. Other features of the western economy include the decline in extractive industries, the increase in public awareness and appreciation of the environmental and recreation amenities of their home counties, and the diversification of rural economies. This section describes a concise set of indicators that land use planners should examine as part of the description of the socio-economic profile of an area, and presents example data from the Rocky Mountain states for each indicator.

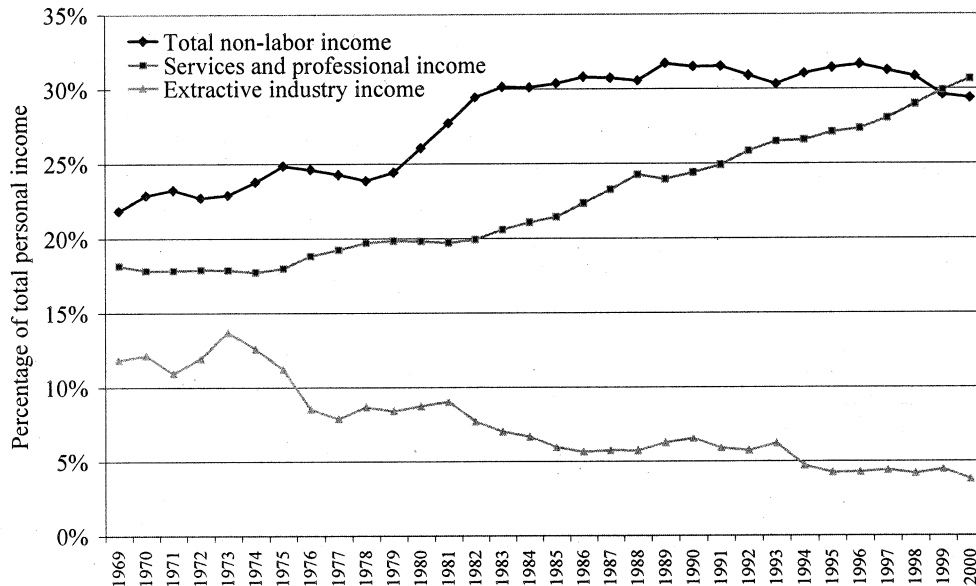
##### **A. Non-labor income**

A complete analysis of regional economic trends should include an analysis of total personal income, including all sources of income, rather than relying solely on employment. A full accounting of income is necessary to an understanding of the important role that non-labor income — such as retirement income, interest payments, rents, and profits — plays in the regional economy. Investment and retirement income makes up nearly one-quarter of total personal income in the Rockies, which would make it the top "industry" in the region. An economic impact analysis that excludes this income is inadequate and misleading.

Researchers have found that areas with high levels of natural amenities attract residents, many of whom rely on non-traditional sources of income (Duffy-Deno 1998, Nelson 1999, McGranahan 1999, Rudzitis 1999, Shumway and Otterstrom 2001, Lorah and Southwick 2003). When an investor living in a community receives dividends on his or her investments, that money represents an influx of income for the local community. The same thing is true of a retiree's

income. Due to the high levels of natural amenities in the coastal and mountain regions of the West, these non-labor sources of income are concentrated in those areas (Nelson 1999).

An influx of retirees in those rural communities has been shown to have positive effects on both income and employment (Deller 1995), with non-labor income fueling increases in income and employment for many other sectors including health, financial and real estate services. Figure 2 shows the trend in total personal income for the five-state Rocky Mountain region. Service sector income has been rising in recent years while extractive industry income has fallen. Non-labor income makes up the largest proportion of total personal income.



Source: Regional Economic Information System, Bureau of Economic Analysis, US Department of Commerce  
 Extractive industries: "Farm proprietors' income," "Farm earnings," "Agricultural services, forestry, fishing," "Mining," "Lumber and wood products," and "Paper and allied products"  
 Service and professional: "Services," "Eating and drinking places," and "Finance, insurance, and real estate"  
 Note: The figure is based on SIC data for 1969-2000 in order to show the long-term trend. While not explicitly compatible, NAICS data for 2001-2003 show similar trends for non-labor, service and professional, and extractive industry income.

Figure 2. Total Personal Income in the Rocky Mountains

Table 2. Non-labor income as a percentage of total personal income (2003)

	Colorado	Montana	New Mexico	Utah	Wyoming	Rocky Mountain Region
Investment income <sup>a</sup>	17%	19%	15%	15%	23%	16%
Retirement income <sup>b</sup>	6%	11%	10%	7%	9%	7%
Income support <sup>c</sup>	3%	4%	7%	3%	3%	4%
Other <sup>d</sup>	0.7%	1.1%	1.4%	1.1%	0.8%	0.9%
All non-labor income	26%	35%	33%	26%	36%	28%

Source: Regional Economic Information System, Bureau of Economic Analysis (<http://www.bea.doc.gov>)

<sup>a</sup> Dividends, interest, and rent

<sup>b</sup> Includes veterans' benefits, military benefits, and Medicare

<sup>c</sup> Income Maintenance, Supplemental Security Income, Family Assistance, Food Stamps, Medicaid, Unemployment

<sup>d</sup> Includes federal education and training assistance, settlements between individuals and businesses and transfer payments from non-profit institutions

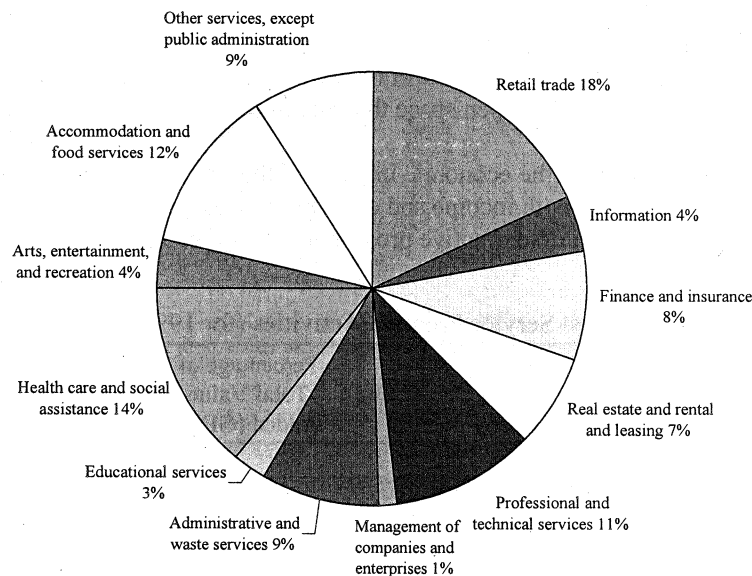
It should be noted that non-labor income also includes income support payments such as Medicaid, welfare and unemployment. However this category is consistently a small portion of total non-labor income and therefore a small portion of total personal income. Income support is less than 4 percent of total personal income and only 14 percent of non-labor income in the Rockies. It is important for a complete analysis of non-labor income to make a distinction between income support and other forms of non-labor income. Table 2 shows non-labor income, broken into its components as a percentage of total personal income for the five Rocky Mountain States. Investment and retirement income is the largest portion of non-labor income for each state, while income support reflects a much smaller portion.

A complete analysis of an area's economy must consider non-labor income, and a thorough evaluation of land management alternatives must consider the impacts of each alternative on non-labor income.

**B. Knowledge-Based, Service Sector and Other Non-Recreation Businesses**

Bennett and McBeth (1998) cite the emergence of a trend toward increasing western rural populations as early as the 1970s and state that this trend was partly motivated by the high quality of life in these areas. Johnson (2001) points out the importance of technology in this transition. He credits the advancement of technology with both the downward trend in extractive employment (where improved technology results in reduced labor requirements) and the potential (currently being realized in many communities) for economic growth and stability. Johnson points out that improving technology, especially in information and communication, also mitigates the constraints imposed by remoteness and permits employment in knowledge-based and service industries previously unavailable for rural residents.

Many of the counties in the Rocky Mountain West with economies that are characterized by a predominance of service industries have the highest incomes (Shumway and Otterstrom 2001). Over the past quarter-century, the U.S. economy has seen a shift from extractive and primary manufacturing industries to service oriented businesses. A common misconception about the service sector is that it includes only low paying jobs. This is not the case. The service sector in the West includes several high-paying industries, many of which are linked closely with the increase in non-labor income. Employment and income in the health care services increase as the number of retirees in an area increases. As people with investment income move into a region, the demand for financial, insurance, and real-estate service also increases.



Source: Regional Economic Information System, Bureau of Economic Analysis (<http://www.bea.doc.gov>)

Figure 3. Service and Professional Employment in the Rocky Mountains (2003)

The service sector includes occupations and industries that are classified as "knowledge based," defined by Henderson and Abraham (2004):

"Knowledge-based activities emerge from an intangible resource that enables workers to use existing facts and understandings to generate new ideas. These ideas produce innovations that lead to increased productivity, new products and services, and economic growth."

Knowledge-based occupations have grown nationwide since 1980, with growth in the Rocky Mountain region being among the highest (Henderson and Abraham 2004). Local amenities that enhance quality of life are among the factors correlated with this growth. Other factors contributing to the growth of knowledge-based occupations are a high quality workforce, colleges and universities, infrastructure in the area, and the size and diversity of the local economy. These factors are likely to be interrelated and in many cases dependent on the quality of the environment and the availability of public lands, as cities and counties in the region leverage scenic amenities to attract high quality workers and knowledge-based industries. Other research confirms the role that amenities, including environmental and recreational amenities, play in attracting businesses to locations in the rural Rocky Mountain West (Whitelaw and Niemi 1989; Johnson and Rasker 1993, 1995). The most recent income data available from the Bureau of Economic Analysis (BEA) include a category called "information," which captures a good deal of the new knowledge-based industry. Land management decision makers should take advantage of these expanded industry classification categories when analyzing the potential impacts of public land management on the diverse economies of western counties.

A complete analysis of an area's economy must take into account the growth in income and employment in the service and professional sectors, and consider the impacts of each alternative on those sectors.

### C. Recreation & Tourism

Many rural communities in the Rocky Mountain region have experienced firsthand the surge in demand for recreation experiences outdoors, especially on federal public lands. Moab, Utah is a good example. This town was once a dying mining center and is now a top destination for recreation seekers of all sorts. Other towns around the West have seen an upswing in migration and economic health as they become "discovered" by recreationists (Rasker, et al. 2003, 2004; Holmes and Hecox 2004).

A 2005 report by the Outdoor Industry Association estimates that 159 million Americans participate in outdoor recreation each year. A 2002 study by the same organization estimates annual spending on outdoor recreation at \$18 billion. The public lands provide much of the open space that makes this important economic activity possible.

In 2000, the Forest Service estimated the economic impacts of their program areas. These estimates account for the impact a range of activities exerts on both income and employment. Recreation and protection programs account for a much greater economic impact than do extractive programs (Alward et al. 2003).

Table 3. Economic Significance of Forest Service Program Activities (for 1999)

	Percentage of Total Value Added (GDP)	Percentage of Total Income	Percentage of Total Wages	Percentage of Total Jobs
Recreation and Landscape Protection <i>Recreation, Heritage &amp; Wilderness; Wildlife, Fish &amp; Rare Plants; Watershed &amp; Air Mgt; Ecosystem Mgt. Coord.; Access &amp; Travel Mgt.</i>	70%	69%	71%	76%
Extraction of Commercial Resources <i>Range Mgt.; Forest Mgt.; Minerals &amp; Geology Mgt.</i>	22%	22%	20%	17%
Other <i>Lands &amp; Realty Mgt.; Fire &amp; Aviation Mgt.; Law Enforcement; Facilities Mgt., General Admin.; S&amp;P Forestry; R&amp;D</i>	9%	9%	8%	7%

Source: Alward et al. 2003.

Quality hunting and fishing opportunities require wildlife habitat, which generally means large areas of open land. As the population grows, these are increasingly found only on the federal and other public lands. Pickton and Sikorowski (2004) estimate that the total economic impact of hunting, fishing, and wildlife-watching in Colorado at over \$1.8 billion, with corresponding employment at 33,000 full-time jobs. An April 2004 report from the Center for the Study of Rural America calls wildlife recreation "rural America's newest billion-dollar industry" (Henderson 2004), with wildlife-related activities boosting tourism, spurring business growth and contributing to increased property values. The U.S. Fish and Wildlife Service and the Census Bureau jointly track participation and expenditures on wildlife-related recreation. Nationwide these activities generate \$108 billion for local economies. Much of these expenditures are in the Rocky Mountain West, with hunters, anglers, and wildlife watchers spending nearly \$6 billion in the five-state region alone in 2001 (U.S. FWS and U.S. Census Bureau 2001). Table 4 presents the participation in and expenditures on wildlife recreation for Colorado, Montana, New Mexico, Utah and Wyoming.

Table 4. Participation and expenditures from hunting, fishing, and wildlife-associated recreation in the Rocky Mountains (2001)

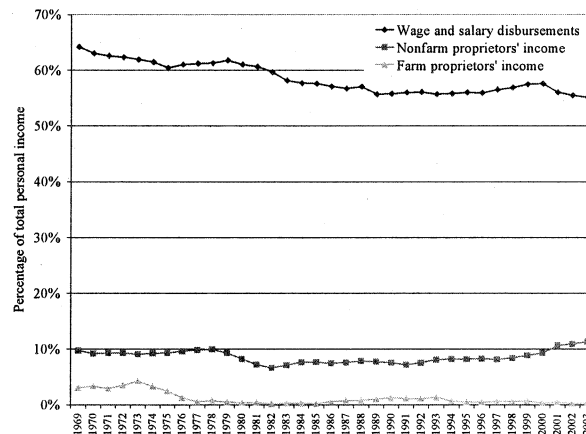
	Participation	Expenditures
Colorado	2.1 million	\$2 billion
Montana	871,000	\$943 million
New Mexico	884,000	\$1 billion
Utah	1.1 million	\$1.4 billion
Wyoming	662,000	\$634 million

Source: U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. 2001.

A complete analysis of an area's economy must present data and analysis that fully account for the important role that tourism, recreation, hunting, and fishing play in ensuring a sustainable and diversified economy for rural western communities.

#### D. Entrepreneurs

All of the indicators previously discussed are related to the increasing entrepreneurial activity being experienced West-wide. Entrepreneurs in high technology and knowledge-based industries can often choose their location, and are likely to choose high-amenity locations (Rasker and Glick 1994, Snepenger et al. 1995, Johnson and Rasker 1995, Beyers and Lindahl 1996, Rasker and Hansen 2000, Low 2004, Henderson and Abraham 2004). Recreation- and tourism-oriented businesses are often founded by footloose entrepreneurs seeking to live and work in places rich in amenities. Retirees and others relying on investment income also choose amenity-rich locations that include certain businesses and services. These new migrants bring with them entrepreneurial opportunities for those who can provide the services they seek.



Source: Regional Economic Information System, Bureau of Economic Analysis (<http://www.bea.doc.gov>)

Figure 4. Rocky Mountain Personal Income by Type

Figure 4 shows personal income by type for the Rocky Mountain region. While wage and salary income is still the largest portion of total personal income, non-farm proprietors' income has shown an upturn in recent years.

As the proportion of total personal income from non-farm proprietors grows, implications for rural communities and for management of the public lands that surround them also grows. As Low (2004) points out: "Entrepreneurs create local jobs, wealth, and growth — and are themselves innovative users of other regional assets and resources." Furthermore, Low notes: "Entrepreneurs bolster a region's quality of life while promoting economic prosperity. Research has found a strong correlation between entrepreneurship and long-term regional employment growth."

Beyers and Lindahl (1996) specifically examine businesses which provide "producer services" and find these businesses are expanding rapidly in rural areas, and that most of them conduct much of their business interregionally or even internationally, bringing outside income into the rural region where they are located. These researchers also found that the decision to locate in rural areas is mostly for quality-of-life reasons, providing further evidence of the importance of such factors to local economies and the need to examine public land management activities and the potential impacts on quality of life.

A complete analysis of an area's economy must take into account the growing role of entrepreneurial businesses, and consider the impacts of each alternative on those businesses attracted by the environmental amenities provided by public lands in those communities.

#### **E. The Role of Protected Public Lands**

More and more people in the West, and all over the US, are able to choose where they live and work. Technology makes it easier for professionals to "telework" using electronic communications. Many businesses are able to conduct national or international commerce from any location they choose. Other entrepreneurs simply choose to live in a particular place and build a business in response to local needs. Retirees and others who collect non-labor income are not tied by a job to a specific location. All of these people seek an attractive place to live. More and more, as development pressures increase, public lands become a backdrop or setting which contributes to or even creates the amenities on which a community's economy will thrive and grow. Research supports the assertion that protected public lands contribute to rural economic health (Rudzitis and Johansen 1989, Rudzitis and Johnson 2000, Rasker et al. 2004).

Local communities with protected wildlands reap measurable benefits in terms of employment and personal income. For instance, the Sonoran Institute (Sonoran Institute 2004b) has found that protected lands have the greatest influence on economic growth in rural isolated counties that lack easy access to larger markets. From 1970 to 2000, real per capita income in isolated rural counties with protected land grew more than 60 percent faster than isolated counties without any protected lands.

These findings confirm earlier research showing that wilderness is in fact beneficial for local economies. Residents of counties with wilderness cite the presence of that wilderness as an important reason why they moved to the county, and long-term residents cite it as a reason they stay. Recent survey results also indicate that many firms decide to locate or stay in the West because of scenic amenities and wildlife-based recreation, both of which are strongly supported by wilderness areas (Morton 2000).

As noted by Freudenburg and Gramling (1994):

"...it needs to be recognized as a serious empirical possibility that the future economic hope for resource-dependent communities of...the United States could have less to do with the consumption of natural resources than with their preservation."

This sentiment is reiterated by Deller et al. (2001):

"Rural areas endowed with key natural resource amenities can manage those resources to capture growth more effectively. This may entail expansion beyond policies that have historically been focused on extraction of the resource base."

Resource managers, economic planners and community leaders must become aware of this potential. We therefore request that the NEPA process fully address the economic importance to local communities of protecting public wildlands from resource extraction.

## V. SOURCES OF DATA

This section presents selected sources of economic, demographic, and recreation data.

### A. Economic and Demographic Data

Data are available for several economic indicators by county from the U.S. Department of Commerce, Bureau of Economic Analysis and the U.S. Department of Labor, Bureau of Labor Statistics. The U.S. Census Bureau also tracks economic trends along with demographic trends, most by county as well. Economic profiles showing these and other trends by state, county, or groups of counties are available from the Sonoran Institute's Economic Profile System.

Federal economic and demographic data sources:

Bureau of Economic Analysis (Department of Commerce): <http://www.bea.doc.gov>

Date on income, farm income, transfer payments, and employment for states, counties, and regions. Annual data, 1969-2000 (Standard Industry Classification) and 2001-2003 (North American Industry Classification System)

Bureau of Labor Statistics (Department of Labor): <http://www.bls.gov>

Data on income, wage and salary, employment, unemployment rates by industry, for counties, states, and regions. Monthly data, 1990-2005

Census Bureau (U.S. Department of Commerce): <http://www.census.gov>

Data on population, demographics, business, and economics for states and counties

The Sonoran Institute Economic Profile System: <http://www.sonoran.org>

Generates detailed economic profiles, including trends in employment and income, farm income, economic resilience, and demographics for states, counties, or groups of counties. The companion, Economic Profile System — Community, will generate profiles to reflect just the rural or urban areas of a county.

The National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (U.S. Department of the Interior, Fish and Wildlife Service and U.S. Department of Commerce, Census Bureau):

<http://www.census.gov/prod/www/abs/fishing.html>

Data at the state level on participation in and expenditures for wildlife-associated recreation

Selected state economic and demographic data sources:

Colorado Economic and Demographic Information System: <http://www.dola.state.co.us/is/cedishom.htm>

Montana Census and Economic Information Center (CEIC): <http://ceic.commerce.state.mt.us/>

New Mexico Labor Market Information: [http://www.dol.state.nm.us/dol\\_lmif.html](http://www.dol.state.nm.us/dol_lmif.html)

New Mexico Economic Development Data Center: <http://ww1.edd.state.nm.us/index.php?/data/C31/>

Utah Governor's Office of Planning and Development, Demographic and Economic Analysis:

<http://www.governor.utah.gov/dea/>

Wyoming Department of Administration and Information, Economic Analysis Division:

<http://eadiv.state.wy.us/>

### B. Recreation Data

Data on recreation use in the area where a land management plan is being developed is critical to making an informed decision. Surveys of users at recreation areas can be utilized to obtain information on the levels and types of

recreation use. Information on users' expenditures in the area is also important to learn the overall impact of public lands recreation. Federal land management agencies collect some data on recreation use of public lands. The Bureau of Land Management's Recreation Information Management System (RIMS) and the USDA Forests Service's National Visitor Use Monitoring System (NVUMS) are two examples.

Other information may be obtained through surveys of local residents, recreation visitors and through using existing data on the recreation and tourism revenues to local businesses, and the value of these activities to participants. The lack of complete visitation data does not justify ignoring the jobs and income from recreation. Furthermore, the Data Quality Act requires use of the best available, reliable data on all impacts and affected sectors of the economy.

The National Survey on Hunting, Fishing and Wildlife-Associated Recreation (noted above) is also a source of state-wide data on participation in wildlife recreation that should be used to supplement more specific studies for the location in question. State agencies are also a source of data on fishing and hunting and other wildlife-associated recreation.

Colorado Division of Wildlife: <http://wildlife.state.co.us/index.asp>  
Montana Fish, Wildlife, and Parks: <http://fwp.state.mt.us/default.html>  
New Mexico Game and Fish: <http://www.wildlife.state.nm.us/index.htm>  
Utah Division of Wildlife Resources: <http://wildlife.utah.gov/index.php>  
Wyoming Game and Fish: <http://gf.state.wy.us/>

### **C. Data Gaps and Other Issues**

Land managers may encounter gaps in county- or state-level economic data or may notice that data series are not continuous. These are not, however, obstacles to doing a thorough and comprehensive analysis of the trends in the economies of the local area.

#### **1. Disclosure Gaps**

Some data gaps are due to disclosure restrictions. The Bureau of Economic Analysis and the Bureau of Labor Statistics will suppress data in cases where disclosing it may reveal private information about individuals. For example, if only one business represents a specific industry in a given area, any data on employment and/or income in that industry will not be publicly disclosed since it may make it possible to identify an individual's or business' private information. Disclosure suppression is more likely to be a problem in counties with small populations. The Sonoran Institute suggests several potential techniques to address the issue of data gaps due to disclosure issues. The Economic Profile System will also automatically estimate the data gaps for major industry categories. These are described in detail in the User's Manual for the EPS (Sonoran Institute 2004b.)

#### **2. Other Data Gaps**

BEA and Bureau of Labor Statistics (BLS) data are sometimes not available for certain industries and/or certain years. Other data are suppressed, but are identified as falling within a range of values. Data gaps where an "L" appears instead of a number are described as follows:

Less than 10 jobs, but the estimates for this item are included in the totals, or  
Less than \$50,000 (for income data), but the estimates for this item are included in the totals

#### **3. Industry Classification Using SIC and NAICS**

Income and employment data from the Bureau of Economic Analysis and the Bureau of Labor Statistics for 1969-2000 are classified according to the Standard Industry Classification system (SIC), while the most recent data (2001 and forward) are classified by the North American Industry Classification System (NAICS). NAICS was developed jointly by the U.S., Canada, and Mexico in order to make statistics comparable across all three countries.

The NAICS provides greater detail for the service and professional sectors which are of growing importance in the rural West, and indeed all over the country. This classification scheme also includes some emerging industries such as "information" which includes the growing Internet and information phenomenon. The Bureau of Economic



Analysis' Regional Economic Information System (REIS) uses SIC to classify industries and the Sonoran Institute's EPS system uses SIC data from the REIS in order to show trend analyses, along with NAICS data.

## VI. RECOMMENDED METHODS FOR ANALYSIS

In general, it is inappropriate to examine a region's economy solely as a single point in time because economies are dynamic. To the extent that data are available, the economic profile of an area should be developed based on the trends in key economic indicators. This can help guide resource management by showing the likely future situation in an area and can point out periods of economic downturn. It may be instructive to look at other variables during these periods to see if there are correlations between land management activities and economic activity.

Looking at the changes in employment and income (including non-labor income) is important to understanding the overall direction in which an area's economy is moving. Trend analysis will show long-term patterns in income and employment that may be masked when looking at only a point in time. Data on employment and income are available from 1969-2000 from the BEA under the SIC system. The BEA changed to the NAICS in 2001, and reconstructed NAICS data for years prior to 2001 are not yet available. However, one can certainly look at a general picture of the economy over time by using both sets of data. This analysis should be applied to all the segments of the economy to see the long-term trends in both extractive and other industries along with non-labor income.

A lack of data on recreation activities on public lands should not be an excuse to avoid analysis of potential impacts of public land management decisions on the recreation sector. Several examples of research on recreation use, values to participants, and expenditures are available (a very limited sample includes: Fix and Loomis 1997, Chakraborty and Keith 2004, Cordell and Tarrant 2002, Kaval and Loomis 2003). Rosenberger and Loomis (2001) present a detailed bibliography of recreation valuation studies and present methods by which analysts can transfer estimates of the value of recreation in one area to other similar areas. Of course, the best way to truly understand the value of recreation in an area is to conduct a survey specifically focused on that area. At a minimum, such a survey should collect information on recreation visitation and expenditures. An estimate of the economic impacts of recreation can be made by multiplying the total number of recreation visitors in an area by the estimated expenditures per visitor day. These data should be collected and analyzed as part of a comprehensive analysis of the socio-economic impacts of land management.

## VII. RECOMMENDED ANALYSES

The preceding sections of this brief have presented the key indicators that must be included in a socio-economic impact analysis, identified data sources for conducting that analysis, and provided methods for completing an analysis that more accurately reflects the West's economy. In making land-use decisions, federal agencies have an obligation under NEPA to take a "hard look" at the environmental consequences of a proposed action, and the requisite analysis "must be appropriate to the action in question."<sup>2</sup> The impacts and effects of a proposed action, such as oil and gas development, that federal agencies are required to assess include: "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative."<sup>3</sup> Under the Data Quality Act, federal agencies are required to use information that is of high quality and that is objective, useful, and verifiable by others.<sup>4</sup> The agency must also use "sound statistical and research" methods.<sup>5</sup>

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<sup>2</sup> 42 U.S.C. § 4321 et seq.; *Metcalf v. Daley*, 214 F.3d 1135, 1151 (9<sup>th</sup> Cir. 2000); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989).

<sup>3</sup> 40 C.F.R. § 1508.8.

<sup>4</sup> Treasury and General Government Appropriations Act for Fiscal Year 2001, Pub.L.No. 106-554, § 515. See also, Office of Management and Budget "Information Quality Guidelines," available at [http://www.whitehouse.gov/omb/inforeg/iqg\\_oct2002.pdf](http://www.whitehouse.gov/omb/inforeg/iqg_oct2002.pdf) and individual "Agency Information Quality Guidelines," available at [http://www.whitehouse.gov/omb/inforeg/agency\\_info\\_quality\\_links.html](http://www.whitehouse.gov/omb/inforeg/agency_info_quality_links.html).

<sup>5</sup> *Ibid.*

Federal agencies cannot evaluate the consequences of proposed decisions or determine how best to avoid or mitigate negative impacts without adequate data and analysis. NEPA's hard look at environmental consequences must be based on "accurate scientific information" of "high quality."<sup>6</sup> Essentially, NEPA "ensures that the agency, in reaching its decision, will have available and will carefully consider detailed information concerning significant environmental impacts."<sup>7</sup> The Data Quality Act and the agencies' interpreting guidance expand on this obligation, requiring that influential information or decision-making input be based on "best available science and supporting studies conducted in accordance with sound and objective scientific practices."<sup>8</sup>

Through the application of the methodology, key indicators and data sources we have provided, federal agencies can better fulfill their obligations to evaluate the direct, indirect, and cumulative impacts of various alternative decisions. In this section, we have provided both general recommendations on the scope of the socio-economic impact analysis that should occur and specific inquiries to be made in this analysis. Again we note that completion of the socio-economic analyses outlined in this brief is necessary but not sufficient to fully evaluate a land management decision. A thorough benefit-cost analysis is also required and expected.

**We formally request that the NEPA analysis fully reflect and account for the following scoping comments:**

**A. The socio-economic analysis should include an analysis, graphs and discussion of historic personal income trends — including non-labor sources of income.**

The analysis of regional economic impacts must include an analysis of all sources of income, including non-labor income. A full accounting of all sources of income is necessary to understand the important role that retirement and investment income — as well as other sources of non-labor income, such as interest payments, rents, and profits — play in the regional economy. An economic impact analysis that excludes non-labor income is inadequate and misleading.

**➤ Specific Requests and Requirements for examining the Total Personal Income and the Importance of Non-Labor Income as Part of the NEPA Process:**

For all counties in the planning area, please show the role of non-labor income in the area's economy.

Show the percentage of current total personal income that is non-labor income (excluding income support).

Analyze and discuss the role that retirement and investment income currently plays in the area's economy, including the spillover effects of non-labor income on businesses in the area.

Analyze and discuss the role that amenities, including recreation opportunities and environmental quality, currently play in attracting and retaining non-labor income to the area.

Analyze and discuss the potential impacts that public land management alternatives will have on the level and trend of investment and retirement income in the area.

Show the trend in non-labor income (again excluding income support) as a percentage of total personal income.

<sup>6</sup> 40 C.F.R. § 1500.1(b).

<sup>7</sup> *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

<sup>8</sup> Treasury and General Government Appropriations Act for Fiscal Year 2001, Pub.L.No. 106-554, § 515. See also, Office of Management and Budget "Information Quality Guidelines," available at [http://www.whitehouse.gov/omb/inforeg/iqg\\_oct2002.pdf](http://www.whitehouse.gov/omb/inforeg/iqg_oct2002.pdf) and individual "Agency Information Quality Guidelines," available at [http://www.whitehouse.gov/omb/inforeg/agency\\_info\\_quality\\_links.html](http://www.whitehouse.gov/omb/inforeg/agency_info_quality_links.html).

**B. The socio-economic analysis must include an analysis and discussion on the indirect role public lands play in the regional economy in attracting knowledge-based businesses, service sector business, recreation and tourism businesses, and other entrepreneurs.**

Public wildlands often define the character of an area and are an important component of the quality of life for local residents and future generations. Their protection enables the customs and culture of western communities to continue. The socio-economic analysis also must account for these economic benefits.

A growing number of economists are recognizing that protecting the quality of the natural environment is key in attracting new residents and businesses, and that therefore the environment is the engine propelling the regional economy. A letter to President Bush from 100 economists concludes, "The West's natural environment is, arguably, its greatest, long-run economic strength... A community's ability to retain and attract workers and firms now drives its prosperity. But if a community's natural environment is degraded, it has greater difficulty retaining and attracting workers and firms" (Whitelaw et. al, 2003). Given these findings, we request that, as part of the economic impact analysis of management alternatives, the socio-economic analysis fully consider the indirect role of public lands in attracting and retaining non-recreational businesses and retirees and encouraging entrepreneurial efforts.

➤ **Specific Requests and Requirements for Examining the Role of Protected Public Lands in the Local Economy as Part of the NEPA Process:**

For all counties in the planning area, please show the role of various industries in the area's economy.

Show the current distribution of employment and income by industry (for each industry, show employment as a percentage of total jobs and income as a percentage of total personal income).

Discuss the relative importance of each industry.

Analyze and discuss the impacts that public land management alternatives will have on non-extractive industries if extractive activities are accelerated on public lands in the area.

Show a complete analysis of the segments of service and professional employment and income for the area.

Analyze and discuss the potential impacts of land management alternatives on these sectors of the economy.

Show trends in employment and income by industry, including a detailed examination of the service and professional sectors.

Discuss the level of diversity in the region's economy. Discuss trends in income and employment that have led to the current mix of industries

Analyze and discuss the potential impacts of public lands management alternatives on the overall makeup of the economy of the area.

Show trends in non-farm proprietor's income as a percentage of total personal income for the area.

Collect data on the various sectors that make up non-farm proprietors. Analyze the sectors where entrepreneurship is growing.

Analyze and discuss the factors that have attracted new businesses to the area.

Analyze and discuss the potential impacts that public land management alternatives will have on these sectors and the ability of proprietors to start and grow businesses.

**C. The socio-economic analysis must account for the economic importance of the recreation, hunting, and fishing that occurs on public land.**

The recreation opportunities provided by wilderness-quality lands also yield direct economic benefits to local communities. The socio-economic analysis must include an analysis of the income and jobs associated with recreation, hunting and fishing from each alternative.

➤ **Specific Requests and Requirements for Examining the Economic Importance of Recreation, Hunting and Fishing on Public Lands as Part of the NEPA Process:**

For all counties in the planning area, show the role of recreation, hunting and fishing in the area's economy.

Collect data on participation in all recreation activities (hunting, fishing, hiking, camping, backpacking, biking, skiing, wildlife watching, boating, ORV use, etc.)

Collect data on expenditures by recreation visitors in the region.

Analyze the economic impact of hunters' and anglers' expenditures on area businesses and local economies.

Analyze the economic impact of other recreationists' expenditures on area businesses and local economies.

Show the impact of lodging taxes, sales taxes, and property taxes in the local economy.

Analyze and discuss the impact of public land management alternatives on recreation, hunting, and fishing businesses.

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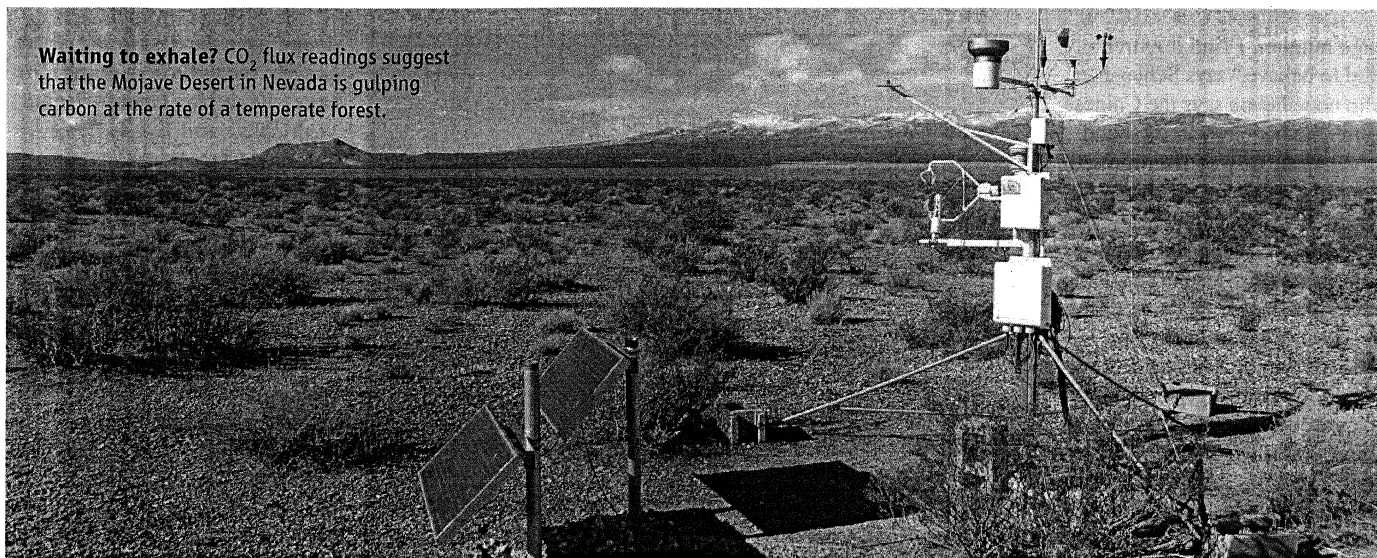
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# **ATTACHMENT 7**

**Waiting to exhale?** CO<sub>2</sub> flux readings suggest that the Mojave Desert in Nevada is gulping carbon at the rate of a temperate forest.



ECOSYSTEMS

## Have Desert Researchers Discovered A Hidden Loop in the Carbon Cycle?

**URUMQI, CHINA**—When Li Yan began measuring carbon dioxide (CO<sub>2</sub>) in western China's Gubantonggut Desert in 2005, he thought his equipment had malfunctioned. Li, a plant ecophysiologicalist with the Chinese Academy of Sciences' Xinjiang Institute of Ecology and Geography in Urumqi, discovered that his plot was soaking up CO<sub>2</sub> at night. His team ruled out the sparse vegetation as the CO<sub>2</sub> sink. Li came to a surprising conclusion: The alkaline soil of Gubantonggut is soaking away large quantities of CO<sub>2</sub> in an inorganic form.

A CO<sub>2</sub>-gulping desert in a remote corner of China may not be an isolated phenomenon. Halfway around the world, researchers have found that Nevada's Mojave Desert, square meter for square meter, absorbs about the same amount of CO<sub>2</sub> as some temperate forests. The two sets of findings suggest that deserts are unsung players in the global carbon cycle. "Deserts are a larger sink for carbon dioxide than had previously been assumed," says Lynn Fenstermaker, a remote sensing ecologist at the Desert Research Institute (DRI) in Las Vegas, Nevada, and a co-author of a paper on the Mojave findings published online last April in *Global Change Biology*.

The effect could be huge: About 35% of Earth's land surface, or 5.2 billion hectares, is desert and semiarid ecosystems. If the Mojave readings represent an average CO<sub>2</sub> uptake, then deserts and semiarid regions may be absorbing up to 5.2 billion tons of carbon a year—roughly half the amount emitted globally by burning fossil fuels, says John "Jay"

Arnone, an ecologist in DRI's Reno lab and a co-author of the Mojave paper. But others point out that CO<sub>2</sub> fluxes are notoriously difficult to measure and that it is necessary to take readings in other arid and semiarid regions to determine whether the Mojave and Gubantonggut findings are representative or anomalous.

For now, some experts doubt that the world's most barren ecosystems are the long-sought missing carbon sink. "I'd be hugely surprised if this were the missing sink. If deserts are taking up a lot of carbon, it ought to be obvious," says William Schlesinger, a biogeochemist at the Cary Institute of Ecosystem Studies in Millbrook, New York, who in the 1980s was among the first to examine carbon flux in deserts. Nevertheless, he says, both sets of findings are intriguing and "must be followed up."

Scientists have long struggled to balance Earth's carbon books. While atmospheric CO<sub>2</sub> levels are rising rapidly, our planet absorbs more CO<sub>2</sub> than can be accounted for. Researchers have searched high and low for this missing sink. It doesn't appear to be the oceans or forests—although the capacity of boreal forests to absorb CO<sub>2</sub> was long underestimated. Deserts might be the least likely candidate. "You would think that seemingly lifeless places must be carbon neutral, or carbon sources," says Mojave co-author Georg Wohlfahrt, an ecologist at the University of Innsbruck in Austria.

About 20 kilometers north of Urumqi, clus-

ters of shanties are huddled next to fields of hops, cotton, and grapes. Soon after the Communist victory over the Nationalists in 1949, soldiers released from active duty were dispatched across rural China, including vast Xinjiang Province, to farm the land. At the edge of the sprawling "222" soldier farm, which is home to hundreds of families, oasis fields end where the Gubantonggut begins. The Fukang Station of Desert Ecology, which Li directs, is situated at this transition between ecosystems.

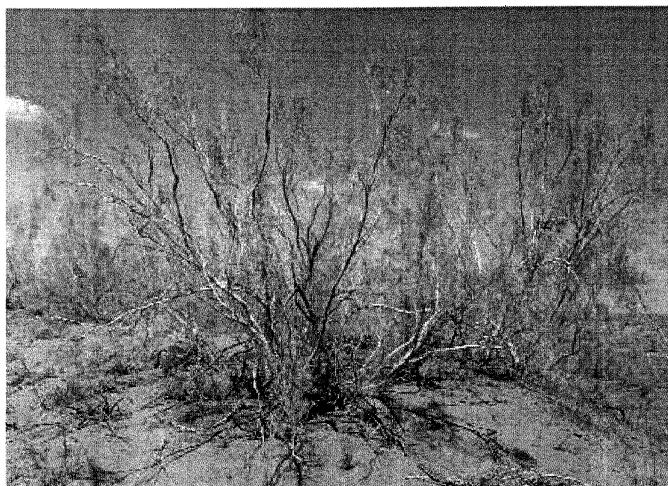
In recent years, average precipitation has increased in the Gubantonggut, and the dominant *Tamarix* shrubs are thriving. Li set out to measure the difference in CO<sub>2</sub> absorption between oasis and desert soil. An automated flux chamber measured CO<sub>2</sub> depletion a few centimeters above the soil in 24-hour intervals on select days in the growing season (from May to October) in 2005 and in 2006. The desert readings ranged from 62 to 622 grams of carbon per square meter per year. Li assumed that *Tamarix* and a biotic crust of lichen, moss, and cyanobacteria up to 5 centimeters thick are responsible for part of the uptake. To rule out an organic process in the soil, Li's team put several kilograms in a pressure steam chamber to kill off any life forms and enzymes. CO<sub>2</sub> absorption held steady, according to their report, posted online earlier this year in *Environmental Geology*.

"The sterilization treatment was impressive," says biogeochemist Pieter Tans, a climate change expert with the U.S. National Oceanic and Atmospheric Administration in Boulder, Colorado. "They may have found a significant effect, previously neglected, but I would like to see more evidence." Indeed, the high end of the Urumqi CO<sub>2</sub> flux estimates are off the charts. "That's more carbon uptake than our fastest growing southern forests. It's a ▶

huge number. I find it extremely hard to believe," says Schlesinger, who nonetheless says the Chinese team's methodology looks sound.

At first, Li was flummoxed. Then, he says, he realized that deserts are "like a dry ocean." The pH of oceans is falling gradually as they absorb CO<sub>2</sub>, forming carbonic acid. "I thought, 'Why wouldn't this also happen in the soil?'" Whereas the ocean has a single surface for gas exchange, Li says, soil is a porous medium with a huge reactive surface area. One question, Tans notes, is why the desert soils would remain alkaline as they absorb CO<sub>2</sub>. Li suggests that ongoing salinization drives pH in the opposite direction, allowing for continual CO<sub>2</sub> absorption. But where the carbon goes—whether it is stowed largely as calcium carbonate or other salts—is unknown, Li says. Schlesinger too is stumped: "It takes a long time for carbonate to build up in the soil," he says. At the apparent rate of absorption in China, he says, "we'd be up to our ankles in carbon."

One possibility, DRI soil chemist Giles Marion speculates, is that at night, CO<sub>2</sub> reacts with moisture in the soil and perhaps with dew to form carbonic acid, which dissolves calcium carbonate—a reaction that warmer temperatures would drive in reverse, releasing the CO<sub>2</sub> again during the day. (Unlike most minerals, carbonates become more soluble at lower temperatures.) In that case, Marion says, Li's nighttime absorption would tell only half the story: "I would expect that over a year, there would be no significant increase in soil storage due to this process," he says, as the dynamic of



**Missing sink?** *Tamarix* shrubs are thriving in China's Gubantonggut Desert, but the soil itself may be socking away far more CO<sub>2</sub> at night.

carbon sequestration in the soil would vary from season to season. Li agrees that this scenario is plausible but notes that his daytime measurements of CO<sub>2</sub> flux did not negate the nighttime uptake.

In any case, other researchers say, absorption alone cannot explain the substantial uptake in the Mojave. Wohlfahrt and his colleagues measured CO<sub>2</sub> flux above the loamy sands of the Nevada Test Site, where the United States once tested its nuclear arsenal. From March 2005 to February 2007, the desert biome absorbed on average roughly 100 grams of carbon per square meter per year—comparable to temperate forests and grassland ecosystems—the team reported in its *Global Change Biology* paper.

Three processes are probably involved in CO<sub>2</sub> absorption, Wohlfahrt says: biotic crusts, alkaline soils, and expanded shrub cover due to increased average precipitation. "We currently

do not have the data to say where exactly the carbon is going," he says. Like the Urumqi team, Wohlfahrt and his colleagues observed CO<sub>2</sub> absorption at night that cannot be attributed to photosynthesis. "I hope we can corroborate the Chinese findings in the Mojave," he says. Arnone and others, however, believe that carbon storage in soil is minimal.

Wohlfahrt suspects biotic crusts play a key role. "People have almost completely neglected what's going on with the crusts," he says. Others are not so sure. "I'm mystified by the Mojave work.

There is no way that all the CO<sub>2</sub> absorption observed in these studies is due to biological crusts, as there are not enough of them active long enough to account for such a large sink," says Jayne Belnap of the U.S. Geological Survey's Canyonlands Research Station in Moab, Utah. She and her colleagues have studied carbon uptake in the southern Utah desert, which has similar crust species. "We do not see any such results," she says.

Provided the surprising CO<sub>2</sub> sink in the deserts is not a mirage, it may yet prove ephemeral. "We don't want to say that these ecosystems will continue to gain carbon at this rate forever," Wohlfahrt says. The unexpected CO<sub>2</sub> absorption may be due to a recent uptick in precipitation in many deserts that has fueled a visible surge in vegetation. If average annual rainfall levels in those deserts were to abate, that could release the stored carbon and lead to a more rapid buildup of atmospheric CO<sub>2</sub>—and possibly accelerate global warming.

—RICHARD STONE

## ENVIRONMENT

# U.S. Climate Change Bill Dies, But the Energy Remains

After weeks of preparation, the U.S. Senate failed to engage in a historic debate last week on how to reduce greenhouse gas emissions. But that hasn't stopped both sides from declaring victory in what amounts to a dry run for next year, under a new president and a new Congress.

Scientific and environmental groups that see such legislation as a national priority say a Democratic proposal to put a price on carbon and create a trillion-dollar market in carbon credits—which would shift money from polluters to "green" companies, governments, and the public—has at least helped frame a

debate they hope to win next year. In rebuttal, Republican opponents and the Bush Administration, which promised to veto it, believe they stood up against a badly flawed bill that would have crippled economic growth and cost families thousands of dollars.

The actual cause of death for the Climate Security Act of 2008 (S.3036), ironically, was a failure by proponents to limit debate. Their inability to invoke cloture—which requires 60 votes in the 100-member body—meant that opponents would be able to postpone a vote indefinitely. That led Democratic leaders to pull the plug on 6 June. But supporters claim

that the 54 senators who expressed support for moving ahead with the legislation is itself remarkable and provides a solid foundation upon which to build.

"Clearly, we knew we weren't going to get a bill this year," admits Brendan Bell, Washington representative for the Union of Concerned Scientists (UCS), which helped organize a petition signed last month by 1700 scientists and economists calling for "swift and sharp cuts" in emissions. "But in 2 years, we've gone from people denying we have a problem and saying we need to study the issue to people saying, 'Let's look

# **APPENDIX 1**



THE WILDERNESS SOCIETY

# Habitat Fragmentation from Roads: Travel Planning Methods to Safeguard Bureau of Land Management Lands

## Key Points

- Habitat fragmentation from roads presents a major threat to the survival of wildlife populations throughout the United States.
- In the United States, the public lands managed by the Bureau of Land Management (BLM) provide much of the remaining intact habitat—untouched by roads and unaffected by fragmentation from human activities—for a wide variety of species, particularly in the West.
- The travel management planning process provides the most logical and effective context within which to evaluate the current level of habitat fragmentation and take steps to reduce it.
- Robust and well-accepted metrics exist to measure habitat fragmentation and help design strategies to protect and improve wildlife habitat.
- Measuring and addressing habitat fragmentation is consistent with the BLM's legal obligations and its duties as a steward of the public lands.
- The BLM can and should use various analytical methods as part of its travel management planning process to ensure that decisions are based on an understanding of existing habitat fragmentation and its impacts on wildlife, and to develop road networks that will minimize future habitat fragmentation.

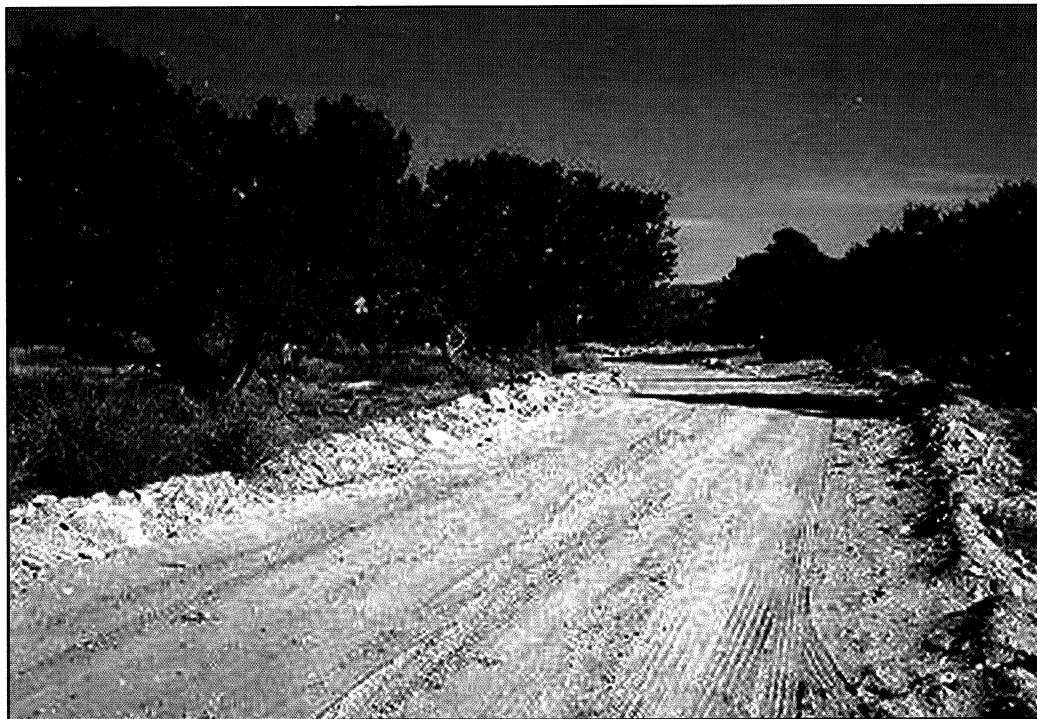
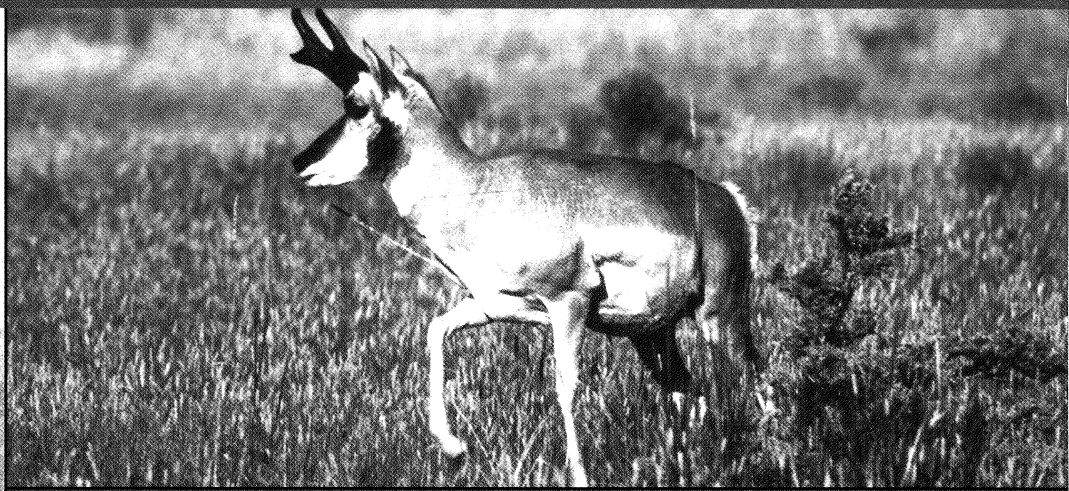


PHOTO COURTESY SUWA.ORG

One of the greatest threats to biological diversity worldwide is habitat fragmentation from roads, such as this one typical of the extensive road networks on BLM lands throughout the West.

Science & Policy Brief



# Fragmenting Our Lands:

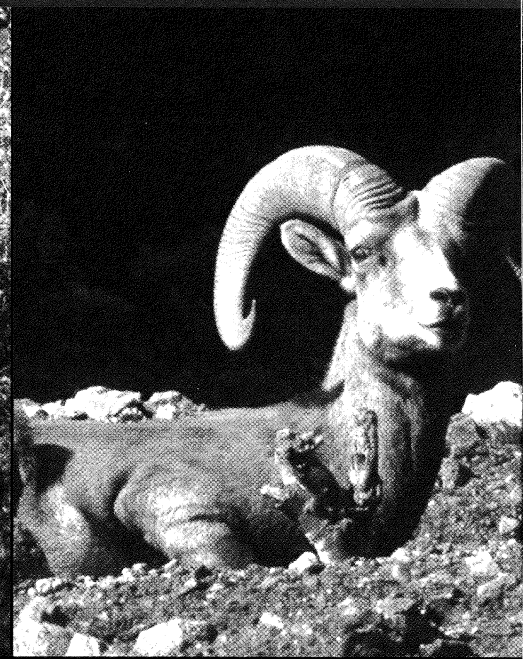
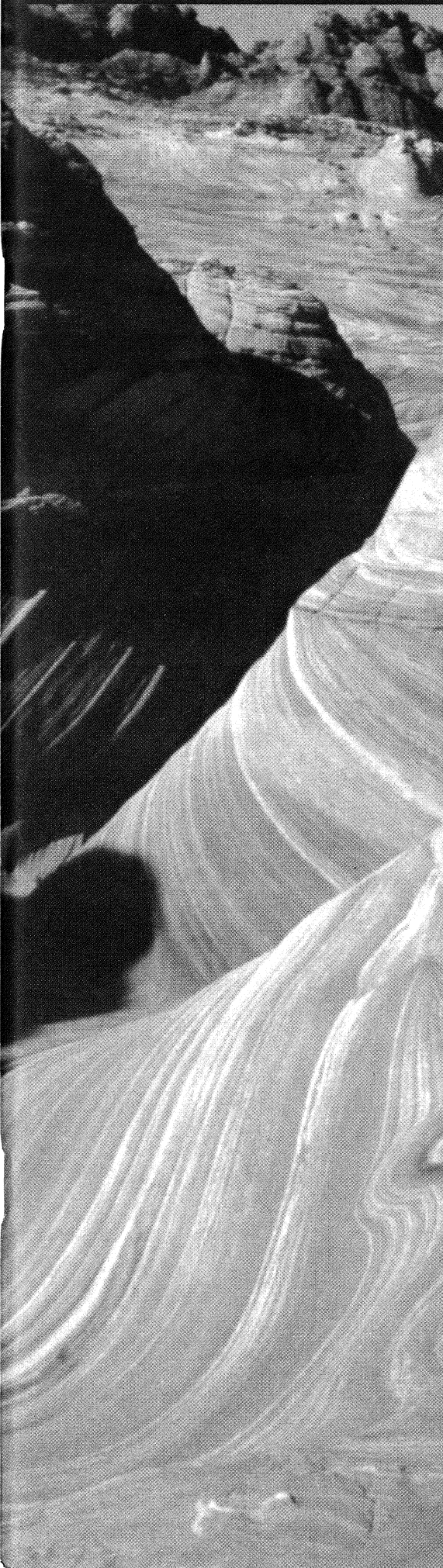
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# Protecting Northern Arizona's National Monuments:

The Challenge of  
Transportation  
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