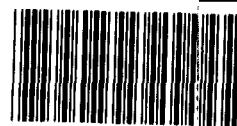


December 1992

WILDERNESS

Effects of Designation on Economy and Grazing in Utah



148192

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**Resources, Community, and
Economic Development Division**

B-249289

December 29, 1992

The Honorable Wayne Owens
House of Representatives

Dear Mr. Owens:

The Wilderness Act of 1964 (16 U.S.C. 1131-1136) created the National Wilderness Preservation System to provide a long-lasting, nationwide system of pristine, roadless, and undeveloped wilderness on federal lands. The act generally prohibits such things as motorized equipment, buildings, roads, commercial enterprises, and aircraft landings in wilderness. Because of these restrictions, some perceive the designation of wilderness as detrimental to the economy, while others believe it is a necessary step to preserve federal lands for present and future generations.

Several proposals have been made to increase the number of acres designated as wilderness in Utah, primarily involving public lands managed by the Department of the Interior's Bureau of Land Management (BLM). Two legislative proposals were introduced in 1989 and again in 1991—one by Representative James Hansen, recommending an increase of about 1.4 million acres; and one by you, recommending an increase of about 5 million acres. In addition, in 1979 BLM began identifying public lands in Utah that could be considered for wilderness designation; this effort culminated in a June 1992 Presidential recommendation to the Congress to designate 1.96 million acres as wilderness.

A 1990 study by the Western Economic Analysis Center,¹ conducted at the request of the Utah Association of Counties, projects that Utah's economy would lose more than \$13 billion annually if your proposal is enacted. In addition, some Utah ranchers and residents are concerned that designating an area as wilderness will reduce livestock grazing. As agreed with your office, we (1) analyzed the reasonableness of the 1990 study's assumptions and the soundness of its methodology and (2) obtained information on the effect of wilderness designation on livestock grazing on public lands in Utah. In addition, as agreed with your office, appendix II discusses seven other studies we identified that generally provide descriptive, nonquantitative information on the effects of wilderness designation in Utah.

¹George F. Leaming, *The Adverse Economic Impacts of Wilderness Land Withdrawals on Utah*, Western Economic Analysis Center (Marana, Ariz.: Jan. 1990).

Results in Brief

The 1990 study by the Western Economic Analysis Center makes unreasonable assumptions and uses flawed methodology to conclude that Utah's economy would lose \$13 billion annually if your proposed legislation is enacted. To put this projection in perspective, this loss is equal to about half of Utah's 1988 or 1989 gross state product. The study assumes that mining, grazing, and recreation would cease when the lands are designated as wilderness. These assumptions are unreasonable because (1) wherever valid existing rights are in place prior to designation, mining and grazing activities are allowed by law and regulation to continue, and (2) grazing has not ceased in Utah's existing wilderness. In addition, BLM predicts that recreation may temporarily increase after wilderness designation and would soon return to normal use patterns. The study's methodology is flawed because, among other things, it inflates the total effects of wilderness designation by not discounting future cash flows and by double-counting projected lost revenues.

Although grazing is allowed to continue in wilderness areas, the actual effect of wilderness designation on existing grazing levels has not been quantified. Neither the Department of Agriculture's Forest Service nor BLM has maintained grazing statistics in such a manner that the effect of wilderness designation on grazing levels is measurable. Moreover, we could not identify any studies that isolate the effects of wilderness designation on grazing levels in Utah. According to the Forest Service and BLM, however, designating areas as wilderness—or the wilderness designation process itself—has not affected grazing levels in Utah. However, we did identify one study that analyzed the grazing issue in two national forests in Arizona. The study found that wilderness designation in the two forests has had no significant effect on either the Forest Service's behavior—as measured by permitted livestock grazing—or on the ranchers' behavior—as measured by the rate of turnover of Forest Service permits and the rate in which permitted grazing is not used.²

Background

The National Wilderness Preservation System includes wilderness in national forests, parks, and wildlife refuges, as well as public lands managed by BLM. Although the Wilderness Act restricts access to and development of wilderness, it generally allows administrative structures; development of minerals where valid existing rights are established, such as claims recognized under the Mining Law of 1872; access to private lands

²Renewable permits issued by BLM and the Forest Service authorize livestock operators (ranchers) to graze their stock on federal rangelands. A permit specifies the allowable level of livestock grazing on a specific grazing unit. An operator may choose not to use all of the grazing allowed on a particular grazing unit.

inside the wilderness; fire, insect, and disease control; water resource and power projects (upon the approval of the President); recreational use; and grazing.

Almost 35 million of Utah's approximately 54 million acres are owned by the federal government. BLM manages approximately 22 million acres, or about 63 percent, of these federal lands.³ About 825,000 acres in Utah, or about 1.5 percent of the state's total land area, are designated as wilderness, primarily within the Forest Service's National Forest System. Another 1.3 million acres have been studied and recommended for wilderness designation by the Department of the Interior's National Park Service. An additional 3.2 million acres, managed by BLM, have been studied for potential designation as wilderness, but have not yet been designated as such.

To be proposed for wilderness designation, areas must (1) have sufficient size (generally at least 5,000 acres), (2) contain opportunities for solitude or primitive and unconfined recreation, and (3) appear to be undisturbed by humans. In addition, candidate areas may contain features of geological, scientific, or scenic value.

The Federal Land Policy and Management Act of 1976 (FLPMA) (43 U.S.C. 1701, et seq) requires the Secretary of the Interior to review public land areas that have wilderness characteristics and to report his or her recommendations to the President about the suitability of each area for preservation as wilderness. In accordance with FLPMA's requirements, BLM—under the direction of the Secretary—identified public lands in Utah that could have been considered for wilderness designation. The process began in August 1979 with an initial inventory in which BLM reviewed its 22 million acres in Utah and identified areas that might have wilderness characteristics. Those areas were then scrutinized more intensively. In November 1980, following this scrutiny, 83 areas with wilderness characteristics—encompassing 3.2 million acres—were designated as wilderness study areas.

After the inventory process, BLM issued a six-volume Statewide Wilderness Draft Environmental Impact Statement in 1986, and released a final

³Of the remaining federal acreage, the Forest Service manages approximately 8 million acres, the National Park Service manages about 1.7 million acres, and the remaining 2.8 million acres are either managed by the Department of Defense or represent other withdrawals from public access.

environmental impact statement (EIS) in 1990.⁴ The final EIS analyzes in detail the environmental consequences of six statewide alternatives for wilderness designation, ranging from all wilderness (designation of all 3.2 million acres studied) to no wilderness for the wilderness study areas.

As required by FLPMA, the Secretary of the Interior reported his wilderness recommendation to the President on October 18, 1991, in a Utah Statewide Wilderness Study Report.⁵ This report discussed 95 wilderness study areas—of which 83 were analyzed in the EIS and 12 were studied separately by BLM—and recommended about 1.96 million acres for wilderness designation. The President submitted this recommendation for Utah to the Congress on June 26, 1992. Ultimately, the Congress will decide how much wilderness to designate through the legislative process. In addition to the administration's recommendation of approximately 1.96 million acres, two legislative proposals for wilderness designation in Utah were introduced in the 102d Congress in March 1991. You introduced H.R. 1500, which recommended designating over 5 million acres as wilderness; and Representative James Hansen introduced H.R. 1508, which recommended designating about 1.4 million acres. These proposals were essentially the same as the proposals you and Representative Hansen introduced in the 101st Congress in 1989, both of which lapsed because the 101st Congress did not enact either of them.

Until the Congress decides which areas to designate as wilderness and which to release from wilderness study area status, FLPMA requires BLM to manage its wilderness study areas so as not to impair their suitability for preservation as wilderness, subject to certain exceptions and conditions. Although this "nonimpairment" standard does not require BLM to manage the areas as wilderness, it restricts—but does not preclude—uses that cause more permanent impacts, such as mining and grazing.

Several concerns—such as buffer zones, reserved water rights, and predator control—also have economic and/or other ramifications with respect to wilderness designation. Although BLM's policy is that no buffer zones will be established around wilderness areas, concerns persist that development will be restricted to protect the wilderness characteristics of the surrounded area. Reserved water rights are also a controversial issue. Some people are concerned that upstream development would be

⁴Utah BLM Statewide Wilderness Final Environmental Impact Statement, U.S. Department of the Interior, Bureau of Land Management, 1990, seven volumes.

⁵Utah Statewide Wilderness Study Report, U.S. Department of the Interior, Bureau of Land Management, 1991, three volumes.

restricted if a wilderness designation includes the reservation of enough water to maintain the wilderness characteristics of an area. Others believe that reserved water rights are essential to protecting the wilderness. For areas with grazing, restrictions on predator control could affect grazing operations because they would make it difficult to protect livestock.

Quantifying the economic effects of wilderness designation in Utah is difficult for several reasons. First, only limited knowledge exists about the mineral resources available in the proposed wilderness study areas. Second, many factors other than wilderness designation may affect future economic uses. For example, livestock grazing levels can be affected by changes in the prices of beef or lamb, mineral development decisions can be affected by technological advances, and recreational use can be affected by changes in public tastes and preferences. Third, certain effects of wilderness designation, such as the opportunity to bequeath a national resource to one's descendants, are (1) intangible, (2) difficult to value, and/or (3) valued differently by different people.

Unreasonable Assumptions and Flawed Methodology in Western Economic Analysis Center Study

The Western Economic Analysis Center study that we analyzed projects the loss of future earnings from mining, grazing, and recreation due to several proposed wilderness designations in Utah. It predicts that (1) BLM's all-wilderness proposal would cause Utah to lose over \$9.2 billion annually, (2) Representative Hansen's proposed designation of 1.4 million acres would cause an annual loss of \$1.4 billion, and (3) your proposed designation of over 5 million acres would cause an annual loss of \$13.2 billion.

To put these projections in perspective, the \$13.2 billion economic loss associated with the 5-million acre designation would be the equivalent of about half of Utah's 1988 or 1989 gross state product. However, according to the Utah Office of Planning and Budget, the combined income from mining, all agriculture (including grazing), and all services (including tourism) accounted for only about 21 percent of Utah's 1988 gross state product. This disparity between the study's predictions and any reasonable projection of estimated economic impact can be traced to the study's unreasonable assumptions and flawed methodology.

The Study's Assumptions Are Unreasonable

The study assumes that mining, grazing, and recreation will cease when the lands are designated as wilderness. However, these assumptions are unreasonable because (1) existing legislation and BLM regulations and

policy allow ongoing mining and grazing activities to continue; (2) the probability of mineral resource development is not as high as the study projected if the areas are not designated as wilderness; (3) experience shows that grazing has not ceased in existing wilderness and wilderness study areas in Utah; and (4) BLM predicts that recreation may temporarily increase, not cease, in some areas, and then would soon return to normal use patterns.

According to the study, most of the costs of the various proposed designations result from the loss of projected revenue from mineral development. This assumes that no mining will be permitted in wilderness and that, without designation, the probability of mineral resource development is 50 percent or more in 99 percent of the cases. Overall, the average probability in this study is 66 percent.

Although FLPMA allows mineral development in wilderness on valid existing claims and leases, this development depends on whether the resource can be developed and sold at a given price. According to both BLM's wilderness study report and final EIS, as well as information we obtained from the Utah Department of Natural Resources, it is unlikely that the state's mineral resources will be developed even if the areas are not designated as wilderness. For example, in the Mexican Mountain Wilderness Study Area in east central Utah, the study assumes a 75-percent probability that the entire estimated resource of 3 million barrels of oil will be developed and sold at \$20 per barrel over a period of 25 years. However, according to geologists from Interior's Geological Survey, a 75-percent probability for a productive oil well in an area without existing development is very high. According to the geologists, the likelihood of finding oil in areas with unproven oil potential is actually about 1 in 9, or an 11-percent probability.

The study also assumes that all grazing will cease in areas designated as wilderness, but this assumption is not supported by Forest Service and BLM data showing that livestock grazing continues in existing wilderness and wilderness study areas in Utah. Further, the Wilderness Act and subsequent legislation, as well as BLM's management policy, state that grazing will be allowed to continue where it existed prior to the wilderness designation.

In addition, the study assumes that all recreation will cease, under the suppositions that hunting is the primary form of recreation in the study areas and that hunters will not use the areas without motorized access.

However, according to BLM's EIS, because motorized access is impossible in most of the wilderness study areas, most hunting is not dependent on vehicle use. Furthermore, the study does not recognize the existence of other recreational uses of wilderness, such as hiking, fishing, backpacking, and river-rafting. BLM's EIS does not predict that all recreational uses of wilderness will stop; rather, in some areas, it predicts a temporary increase in certain types of recreation because of the publicity resulting from wilderness designation. It also predicts, however, that normal use patterns would soon return.

The Study's Methodology Is Flawed

The study's methodology is flawed because, among other things, it inflates the total effects of wilderness designation by not discounting future cash flows and by double-counting projected lost revenues, and it does not consider the intangible costs and benefits of wilderness designation. In estimating the total cost of wilderness designation to Utah's economy, the study ignores a basic economic principle that money is worth less in the future than it is today. The study assumes that total foregone income from mineral development (stated in 1989 dollars) will be lost at the moment of wilderness designation, and the total loss is divided by 25 years to estimate the annual loss. However, in reality, not all of this income would be lost at once; it would be given up over a period of several years to several decades. For example, the study's undiscounted estimate of \$50 billion (in 1989 dollars) of direct business income loss by the mining industry over 25 years would decrease to \$31 billion—a 38-percent reduction—if discounted at a 4-percent real interest rate. These foregone future revenues should have been discounted to present value and then aggregated in order to be a meaningful measure of the total cost of not developing the minerals.

The study double-counts projected revenues that would be lost by adding the revenue generated from the production of goods and services (i.e., gross sales) to the cost of producing the goods and services (i.e., wages and salaries, rents, taxes, profits, etc.). By combining the value of goods and services sold with the measures of personal income and government revenues, the study inaccurately combines some elements of two alternative measures of the same economic activity.

Furthermore, the study's measurement of economic effects ignores intangible costs and benefits of wilderness designation. We recognize the difficulty in precisely measuring intangible costs—such as the ones that result from disrupting traditional ways of life in given areas—and in

measuring intangible benefits—such as the preservation of undisturbed land for future generations. Nevertheless, these intangible costs and benefits should be considered in a comprehensive, credible study.

Other Views Toward the Study

The Center's study has its supporters and its critics. In support of the study, a representative of the Utah Association of Counties, which commissioned the study, stated that the association stands behind the study. The association wants county governments to have a stronger voice in the wilderness designation process, and it believes that designating public lands as wilderness places too many restrictions on the use of these lands. Also, in a letter to the Wilderness Impact Research Foundation in Nevada, a consultant with an agricultural consulting firm supported the study and stated that he and a rural economist had reviewed the study and, although he initially found the study's values difficult to comprehend, after close examination he tended "to believe that ... [the author] was ... conservative"

Conversely, the study has been criticized by the Utah Office of Planning and Budget as well as several economists. The Utah Office of Planning and Budget concluded that because of the study's unrealistic assumptions, triple-counting of economic losses, misrepresentation of BLM's draft EIS, and lack of discounting of future losses, the impacts identified in the study are not defensible. Similarly, a Brigham Young University economist, in a presentation at a Utah Tourism and Recreation Conference, stated: "The claim that protecting these 5.1 million acres of defacto wilderness will somehow cost the state the equivalent of the majority of its total annual earnings, or approximately 26 times the total annual earnings from all of ranching, farming, forestry, fisheries, and mining for the entire state, is so absurd as to be not only ridiculous but irresponsible." Another economist, with the University of Utah's Bureau of Economic and Business Research, evaluated the study's methodology and concluded that it is not defensible against the charge of irresponsibility. According to a paper prepared by the chairman of the University of Montana's Economics Department, the study overestimates the direct impact of wilderness designation on mining by a factor of at least 70.

Appendix I discusses the Western Economic Analysis Center's study in more detail. Appendix II discusses the seven other studies we identified that, for the most part, provide descriptive, nonquantitative information on the effects of wilderness designation in Utah.

Effect of Wilderness Designation on Livestock Grazing Has Not Been Quantified

Although grazing is allowed to continue in wilderness areas as permitted under the Wilderness Act, the actual effect of wilderness designation on grazing has not been quantified. Neither the Forest Service nor BLM has maintained grazing statistics in a manner that would permit the effect of wilderness designation on grazing levels to be measured. Moreover, we identified no studies that isolate the effects of wilderness designation on grazing levels in Utah. Forest Service and BLM officials believe, however, that the designation of areas as wilderness or wilderness study areas has not affected grazing levels in Utah. Nevertheless, some ranchers and other Utah residents fear that wilderness designation will curtail livestock grazing. They believe that wilderness designation will result in restrictions on the ranchers' access to the land and that the ranchers' inability to control predators will increase costs, causing some of them to reduce the number of livestock they graze and, ultimately, forcing some out of business.

Although both BLM and the Forest Service maintain overall statistics on grazing, we did not attempt to isolate the effect of wilderness designation on grazing from other possible causes because (1) BLM does not maintain grazing statistics by wilderness study area, but rather by resource area;⁶ (2) BLM has retained resource-area grazing statistics in Utah only since 1981; and (3) variables other than wilderness designation can affect grazing levels (such as weather conditions and the price of beef or lamb). However, the data illustrate grazing trends in both the resource areas containing wilderness study areas and those that do not contain wilderness study areas. The data indicate that grazing has not declined overall in the resource areas containing wilderness study areas.

Although we identified no studies addressing the specific effects of Utah wilderness designation on grazing, we identified a 1990 study by a University of Arizona professor addressing the impact of wilderness designation on Forest Service grazing levels in two national forests in Arizona.⁷ Overall, this study found that (1) the Forest Service had not decreased permitted livestock grazing on grazing units with wilderness as compared to grazing units without wilderness, and (2) wilderness designation had no significant effect on either the turnover rate of grazing

⁶BLM's Utah State Office oversees 5 district offices, which in turn oversee 16 resource area offices. BLM's wilderness study areas occur within the resource areas and, in some cases, cross resource area boundaries.

⁷Mitchel P. McClaran, "Forest Service and Livestock Permittee Behavior in Relation to Wilderness Designation," Journal of Range Management, Sept. 1991, pp. 483-486.

permits or the rate at which ranchers did not use the permits. We did not verify the data used in this study.

Appendix III further discusses the effect of wilderness designation on livestock grazing.

Conclusions

The 1990 study by the Western Economic Analysis Center, which attempted to quantify the effects that designating varying amounts of public lands in the state as wilderness would have on Utah's economy, makes unreasonable assumptions and uses flawed methodology. The limitations of this study lead us to conclude that the effect on Utah's economy of designating additional acreage in the state as wilderness has not been adequately quantified. Likewise, the effect of wilderness designation on livestock grazing in Utah has not been quantified.

Agency Comments

We requested and received written comments on a draft of (1) appendix I of this report from the Western Economic Analysis Center and (2) the full report from the Departments of the Interior and Agriculture, and the Utah Office of Planning and Budget on behalf of the state of Utah. The Western Economic Analysis Center disagreed with our conclusion that its 1990 study was based on unreasonable assumptions and unsound methodology and stated that our evaluation of its study was itself based on unreasonable assumptions, flawed methodology, and faulty logic. We made some minor revisions as a result of the comments we received from the Center. However, on the basis of our evaluation of the reasonableness of the Center's assumptions, the soundness of its methodology in relation to accepted economic principles and definitions, and the availability of data, our overall conclusion did not change. The Center's comments and our evaluation of them are included in appendix IV.

We also made some minor revisions to the report as a result of the comments provided by the Departments of the Interior and Agriculture. Interior provided additional information on the President's recommendation to the Congress for the designation of public lands as wilderness in Utah and on BLM's conclusions regarding the socioeconomic impacts of wilderness designation in Utah, which we incorporated into the report where appropriate. Agriculture made several comments on the effect of wilderness designation on mineral development and on the probabilities of such development in areas that have been unavailable to exploration. We made some clarifying revisions in response to these

comments. Interior's and Agriculture's written comments and our evaluation of them are included in appendixes V and VI, respectively.

The State of Utah Office of Planning and Budget provided several comments, which we incorporated into the report where appropriate. The office agreed with our evaluation of the Western Economic Analysis Center's 1990 study. In commenting on our conclusion that the effect on Utah's economy of designating additional acreage in the state as wilderness has not been adequately quantified, the office stated that the economic effects of wilderness cannot be reasonably and comprehensively quantified until there is more reliable information on which analysts can base their assumptions. It stated further that to do a comprehensive study, economists need more specific and reliable information about the amount of mineral resources located in potential wilderness areas, the number of and expenditures made by wilderness recreationists, and the nonmarket values associated with wilderness preservation. In addition, it stated that the economic impacts on local economies need to be analyzed further. According to the office, without this type of original data collection, all economic studies will fall short in quantifying the economic effects, and decisionmakers will be faced with either making a decision based on incomplete information or paying large amounts of money for data collection. It also stated that a major effort to analyze the economic effects of wilderness designation in Utah has recently been initiated. The state of Utah's comments and our evaluation of them are included in appendix VII.

Scope and Methodology

In evaluating the Western Economic Analysis Center's study, which attempted to quantify the effects of several proposed Utah wilderness designations, we held several discussions with its author and obtained some of his worksheets. We discussed with him the rationale for his assumptions about future grazing, mining, and recreation in wilderness. We also discussed the reasonableness of the study's assumptions with several economists. We compared the study's projections of future economic activity with information from BLM and the U.S. Geological Survey and from Utah's (1) Office of Planning and Budget and (2) Department of Natural Resources, including its Geological and Mineral Survey and its Energy Office. We also discussed the Center's study with a representative of the Utah Association of Counties, which commissioned the study, and obtained the association's viewpoint on the issue of wilderness designation in Utah. Through reviews of economic publications

and discussions with economists, we assessed the study's methodology to determine whether it was consistent with accepted economic theory.

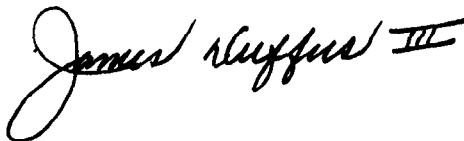
Through literature searches and discussions with economists, we identified seven other studies that addressed various aspects of wilderness designation in Utah. We discussed some of these studies with their authors to clarify questions about assumptions and methodology.

To obtain further information and views on wilderness designation issues and on the attendant effects on grazing, we interviewed officials in BLM's field offices and state office in Utah and in BLM's service center in Denver, Colorado; Forest Service officials in Utah and in Washington, D.C.; Utah state and local government officials; and other interested parties involved in environmental, mining, and ranching issues. We also obtained and analyzed available statistics and other information on livestock grazing on BLM's designated wilderness study areas and the Forest Service's designated wilderness areas, primarily in Utah.

We conducted our review between October 1991 and November 1992 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Secretaries of the Interior and Agriculture; the Director, Office of Management and Budget; various congressional committees; and other interested parties. We will make copies available to others upon request. Please contact me at (202) 275-7756 if you or your staff have any questions. Major contributors to this report are listed in appendix VIII.

Sincerely yours,



James Duffus III
Director, Natural Resources
Management Issues

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Abbreviations

BLM	Bureau of Land Management
FLPMA	Federal Land Policy and Management Act of 1976
EIS	environmental impact statement
AUM	animal unit month
WSA	wilderness study area
GAO	General Accounting Office

GAO's Evaluation of the Western Economic Analysis Center's Study of Wilderness Designation in Utah

According to a 1990 study by the Western Economic Analysis Center¹ that was prepared at the request of the Utah Association of Counties, the loss of future earnings from mining, grazing, and recreation due to proposed wilderness designations in Utah could cause a total adverse impact on the state's economy of as much as \$331 billion over the next 25 years. Specifically, the study predicts that Representative Wayne Owens' proposed designation of over 5 million acres would cause Utah to lose over \$13.2 billion annually, the Bureau of Land Management's (BLM) all-wilderness alternative of 3.2 million acres would cause an annual loss of over \$9.2 billion, and Representative James Hansen's proposed designation of almost 1.4 million acres would cause an annual loss of over \$1.4 billion.

We found that the study's conclusions are based on unreasonable assumptions and flawed methodology and should not be used in reaching a decision on wilderness designation in Utah. For instance, the study concludes that designating over 5 million acres of wilderness in Utah would result in an annual loss of more than \$13 billion. To put this projection in perspective, this loss is the equivalent of about half of Utah's gross state product in either 1988 or 1989. However, designation of this undeveloped land as wilderness is unlikely to result in the magnitude of loss predicted in this study because, according to an Environmental Impact Statement (EIS) BLM released in 1990 on Utah wilderness, the areas that meet the criteria for wilderness do not support high levels of economic development. Additionally, the study's methodology is flawed in several ways. For example, it inaccurately defines and measures economic activity and does not adjust for the time value of money.

Study Overview

The adverse economic effects of various proposed wilderness designations, as presented in this study, were developed in several steps. The study projects annual mining, grazing, and recreation activities for all 3.2 million acres studied by BLM. It then estimates the direct economic effects of wilderness designation, assuming that all mining, grazing, and recreational activity would cease. Next, it estimates the secondary or indirect effects of wilderness designation by adjusting the direct effects with a set of prespecified factors (multipliers). The annual effect is the sum of the direct and indirect effects; this sum is then multiplied by 25 to determine the effect over a quarter of a century. The study then identifies which of these effects apply to Representative Hansen's 1.4-million-acre

¹George F. Leaming, *The Adverse Economic Impacts of Wilderness Land Withdrawals on Utah*, Western Economic Analysis Center (Marana, Ariz.: Jan. 1990).

proposal; it also projects them to Representative Owens' proposal to designate over 5 million acres.

Assumptions Used in the Study Are Unreasonable

The study assumes probabilities of mineral development that, in many cases, are overly optimistic. It also assumes that all grazing and recreational uses will cease once areas are designated as wilderness. These assumptions are unreasonable and lead to unfounded conclusions.

Projections of Mineral Development Are Overly Optimistic

In our opinion, the study's conclusions about foregone revenue from mineral development are unreasonable, as they are based upon overly optimistic probabilities of mineral development if the areas are not designated as wilderness. According to BLM's wilderness study report and EIS, as well as the Utah Department of Natural Resources, the likelihood of development of some of these resources would be low even without wilderness designation. For example, most deposits of strategic and critical minerals (such as lead, silver, zinc, and copper) occurring in the wilderness study areas are of low quality and quantity and are not expected to be explored or developed. In addition, because conventional fuels are less expensive, neither oil shale nor tar sand is expected to be developed in the wilderness study areas in the foreseeable future. Further, in the Mexican Mountain Wilderness Study Area in east central Utah, for example, the study assumes a 75-percent probability that the entire estimated resource of 3 million barrels of oil will be developed and sold at \$20 per barrel over a period of 25 years. BLM's EIS states that the likelihood of development of the oil resources projected in the Mexican Mountain Wilderness Study Area is low because it has the potential only for small, widely scattered oil pools, and no direct data are available to support or refute the occurrence of petroleum within the tract. According to Interior's U.S. Geological Survey geologists, a 75-percent probability of a productive oil well in an area without existing development is very high. Rather, according to the geologists, the likelihood is about 1 in 9, or 11 percent, of finding oil in areas with unproven oil potential.

The study also assumes a 100-percent probability that the 4,200 tons of uranium oxide equivalent that BLM's draft EIS estimates is present in the Cottonwood Canyon Wilderness Study Area in southwestern Utah will be mined and sold for \$12 per pound. Although there is a moderate resource potential for uranium, according to a mineral resource assessment by U.S. Geological Survey, no mining has been done in the area, and none of the

area's uranium deposits are near the surface.² Furthermore, the Utah Energy Office states that all of the estimated uranium resources postulated to exist in the state's wilderness study areas are speculative resources and fall into the undiscovered resources category. As such, these resources may or may not exist. The Energy Office believes that the uranium resources in Utah's wilderness study areas are not crucial to the fulfillment of U.S. uranium requirements and do not seriously conflict with any wilderness designation.

**Available Data Do Not
Support Assumption That
Grazing Will Cease**

Additionally, the author's assumption that all grazing will cease in designated wilderness is not supported by historical data for Forest Service or BLM wilderness areas. The assumption is based upon the author's discussions with ranchers who indicated that they have had difficulty accessing their grazing allotments in wilderness areas. However, in 1984, the Congress designated various Forest Service areas in Utah as wilderness, and grazing has continued within these areas. Additionally, grazing continues within BLM's wilderness study areas, which are required to be managed in a manner that maintains their wilderness character. Furthermore, BLM does not intend for grazing to be affected by wilderness. According to BLM's Utah Statewide Wilderness Study Report, which was issued in 1991, "Any adjustments in grazing levels would be made through standard BLM rangeland management procedures, not as a condition of wilderness management."³

**Assumption That All
Recreation Will Stop Is
Unreasonable**

The study assumes that all recreation in areas under study will cease upon wilderness designation. This assumption is based on the thinking that current recreation is primarily hunting, and that hunters rely on motorized vehicles for access to the areas. Additionally, the study does not consider the possibility that recreation uses, which are restricted in wilderness, would be relocated to other areas rather than lost entirely.

In contrast, BLM's EIS states that wilderness designation could lead to a temporary increase in certain types of recreation—especially primitive uses—with use patterns soon returning to normal. BLM's EIS also states that visitors to existing wilderness study areas seek primitive forms of outdoor recreation, such as hunting, fishing, hiking, backpacking, and river-rafting,

²Mineral Resources of the Cottonwood Canyon Wilderness Study Area, Washington County, Utah, U.S. Geological Survey, U.S.G.S. Bulletin No. 1746-C, 1988.

³Utah Statewide Wilderness Study Report, U.S. Department of the Interior, Bureau of Land Management, 1991, three volumes.

which do not require motorized equipment. While motorized vehicles are not allowed in designated wilderness, these primitive types of recreation are allowed.

Study Methodology Is Flawed

Our evaluation showed that the study's methodology is flawed in several ways. First, it inaccurately defines and measures economic activity. Second, the calculation of annual effects and their aggregation over 25 years is misleading because it is not adjusted for the time value of money, which is a basic economic principle. Finally, the study does not address the intangible effects of wilderness designation.

The Study Inaccurately Measures Economic Activities

The study inaccurately measures economic activities. The study measures the direct economic effect of wilderness designation by adding changes in what it refers to as annual business income—defined as gross sales or the value of goods and services produced—to changes in the cost of producing those goods and services—defined as wages and salaries, rents, taxes, other expenses, and profits—in three sectors: mining, grazing, and recreation. By inappropriately combining some elements of these two alternative measures of economic activities, the study's measures of direct economic effects of wilderness designation represent double-counting and are correspondingly overstated.

The Study Ignores the Time Value of Money

In estimating the total cost of wilderness designation to Utah's economy, the study ignores the time value of money. Because a basic economic principle states that, even with no inflation, money is worth less in the future than it is today, revenues from mining, grazing, and recreation that are foregone over future years should be discounted to present values. For example, to obtain a meaningful measure of the total cost of not developing a given mineral resource, one would calculate the future stream of revenues that would have accrued over the years had the area not been designated as wilderness. These revenues would then be discounted to the present value. However, the study assumes that all foregone income from mineral development (stated in 1989 dollars) will be lost at the moment in time when the areas are designated wilderness. Consequently, the estimate of total foregone income from mineral development over the 25-year period is not an accurate representation of the loss due to wilderness designation.

**The Study Ignores
Intangible Costs and
Benefits of Wilderness
Designation**

The study's measurement of economic effects should, but does not, consider the intangible costs and benefits associated with wilderness designation. For example, not only might a wilderness designation affect such measurable things as income or employment in areas close to the designation, but it might also have the effect of disrupting traditional ways of life in those areas as well—a difficult cost to measure precisely. In Utah, for instance, wilderness designation is seen by some as a restriction of their freedom and ability to use the land as they have always used it. Similarly, intangible benefits, which some attribute to wilderness designation but which are also difficult to quantify precisely, arise because some people value the existence of undisturbed land whether they ever visit that land or not. They value having the option of being able to visit such land, and they also value knowing that they can bequeath the same opportunity to their children. These intangible benefits are often referred to as existence, option, and bequest values or, in aggregate, as the value of preservation. Although difficult to precisely measure, these intangible costs and benefits should be considered in a balanced, comprehensive analysis of the effects of wilderness designation.

GAO's Discussion of Other Studies Addressing Wilderness Designation in Utah

In addition to the Western Economic Analysis Center's study discussed in appendix I, we identified seven other studies relating to wilderness designation in Utah. Six of these studies did not attempt to quantify the economic impact of wilderness designation in the state. Rather, they either provide descriptive, nonquantitative accounts of the effects of designation or address other aspects of designation. One of the studies attempted to quantify a range of effects, but it has not and may never be finalized.

Two Studies by the Bureau of Land Management

The Bureau of Land Management's (BLM) Utah Statewide Wilderness Study Report discusses 95 areas—83 analyzed in BLM's 1990 Environment Impact Statement (EIS) relating to Utah wilderness¹ and 12 others BLM studied separately—and recommends about 1.96 million acres for wilderness designation.² It concludes that designating as wilderness about 1.96 million acres out of the 3.2 million acres it studied would not substantially affect Utah's economy, although the effect could be significant (jobs foregone could equal or exceed 5 percent of the baseline labor force) in localities immediately adjacent to the study areas where substantial potential employment and sales related to the long-term possibilities for major tar sand and coal projects would be foregone. BLM minimized the economic effects of the proposed designation by eliminating from its wilderness designation proposal all areas identified as having significant potential for future mineral development. BLM also concluded that grazing would not be significantly affected on a statewide basis by wilderness designation. Further, BLM predicted in its EIS that primitive recreational use of the wilderness areas could increase temporarily due to publicity surrounding their designation.

BLM's EIS analyzed the potential effects of various acreage alternatives within the 3.2 million acres of land studied for wilderness designation. The EIS identified several factors potentially affected by wilderness designation, including mineral and energy resource potential, the amount of authorized livestock grazing, and current and projected recreational use in each study area.

Although BLM's wilderness study report and its EIS provide both a review of the potential effects of designating about 1.96 million acres and a discussion of the 3.2 million acres BLM studied, they do not estimate the

¹Utah BLM Statewide Wilderness Final Environmental Impact Statement, U.S. Department of the Interior, Bureau of Land Management, 1990, seven volumes.

²Utah Statewide Wilderness Study Report, U.S. Department of the Interior, Bureau of Land Management, 1991, three volumes.

total dollar value of the economic effects identified (e.g., the effects of prohibited mineral development stemming from a wilderness designation). Further, they do not predict the effects of designating additional acreage not included in their scope (e.g., Representative Wayne Owens' proposal to designate over 5 million acres as wilderness).

Study by the Utah Office of Planning and Budget

The Utah Office of Planning and Budget studied the economic effects of wilderness designation of BLM land in Utah in order to provide the governor with information that would clarify the likely magnitude of economic effects of wilderness designation in Utah.⁹ This 1991 internal study projects a range of statewide and multi-county economic effects of wilderness designation, ranging from a total annual loss in personal income of about \$67 million under one scenario to an estimated annual increase in personal income of about \$15 million under another scenario. These effects were characterized by the office as "quite small" in comparison to the state's overall economy, but were not evaluated for their significance to local economies. However, the office believes that the effects of wilderness designation on local economies and communities could be large in some areas and need to be analyzed further. According to the office, the usefulness of these scenarios is not in the precise quantification of these effects, but rather in its identification of the possible magnitude of the effects and differences associated with various scenarios. This study has not been and, in all likelihood, may never be finalized. As it stands, it is simply intended to provide a range of "plausible" effects of wilderness designation. It does not claim to be a definitive assessment of the effects of wilderness designation on the state's economy.

The Office of Planning and Budget compares the expected future economic trends for areas potentially affected by wilderness designation with three potential wilderness scenarios, which it labels negative, neutral, and positive. These scenarios are measured against projected employment and personal income trends to determine the effects, which are quantified by using input-output analysis models for the southeast, southwest, and northern regions of Utah.

The positive and neutral impact scenarios are based on an assumption of 1.9 million acres of additional wilderness, and the negative scenario assumes an additional 3.2 million acres of wilderness. The positive impact

⁹The Impact of Wilderness Designation on Utah's Economy: Three Plausible Scenarios and a Review of Studies, Utah Office of Planning and Budget, unpublished draft report, 1991.

scenario assumes that grazing and mining would be unaffected, and tourism would increase by 10 percent. The neutral impact scenario assumes that grazing would decrease by 20 percent, and mining and recreation would be unaffected. The negative impact scenario assumes that grazing would be entirely eliminated, all mining activity in affected counties would be reduced by 10 percent, tourism activity would be reduced by 10 percent for the next 20 years, and effects would be immediate. In its description of the negative impact scenario, the Office of Planning and Budget states that, in reality, the impacts would likely phase in over time, rather than immediately take effect, and that the likelihood of all grazing stopping immediately is very small. The study did not address the effects of designating over 5 million acres as proposed in H.R. 1500. Therefore, the impacts of this proposal are outside the range that the office identified.

In addition to its own analysis, the Office of Planning and Budget reviewed three other studies of the impacts of wilderness designation in Utah. It reviewed (1) the Western Economic Analysis Center's study discussed in appendix I, (2) a master's thesis by a Utah State University student entitled Benefit/Cost Variables and Comparative Recreation Use Patterns of Wilderness and Non-wilderness Areas (discussed later in this appendix), and (3) a study published in the Journal of Environmental Management entitled "Value of Wilderness Designation in Utah" (also discussed later in this appendix).

The office concludes from its review of the Center's study that "because of the unrealistic assumptions, triple counting of economic losses, misrepresentation of the DEIS [Draft Environmental Impact Statement], and lack of discounting future losses, the impacts identified in [this] study are not defensible...."

The office's review of the master's thesis concludes that the thesis provides a reasonable description of the benefits and costs of wilderness designation. However, it also concludes that the thesis' assertion—adding additional wilderness in Utah is unjustified from a recreational perspective—is not supported by the statistical analysis in the paper.

Finally, the office's review of the study entitled "Value of Wilderness Designation in Utah" states that the study can be used to illustrate the broad-based support for wilderness, and that it provides an approximate measure of the value of wilderness to Utah residents. However, it also concludes that, because the study included no calculation of the

opportunity costs of designating wilderness, the economic value and corresponding acreage estimates cannot be used alone to justify a specific wilderness proposal.

In its comments on a draft of this report, the state of Utah stated that a major effort to analyze the economic effects of wilderness designation in Utah has recently been initiated. The study is being coordinated by a professor of economics at Utah State University, is a multi-year effort, includes some original data collection, and is being funded by mineral lease monies.

Study by a Montana University Professor

A study of wildland preservation in Utah by a professor from the University of Montana concludes that the extractive industries, such as mining and agriculture, are of decreasing importance to Utah's economy and that "wilderness protection does not in any significant way threaten the ongoing development of the Utah economy..."⁴ Further, it concludes that the most likely economic effect of additional wilderness protection on the economic well-being of Utah residents will be positive. It states that the alternative economic uses of wilderness are marginal, as they are tied primarily to speculative mineral activity. It further states that additional wilderness protection does not impoverish communities, but rather "...protects the economic future of those communities by preserving high-quality natural environments that are in increasing demand across the nation."

The purpose of this study was "...to evaluate the conflicting economic claims about the impact of additional wilderness classification in Utah." It discusses the effect of wilderness designation on the mineral industries, recreational usage, and grazing. Relying generally on trend analysis, the study examines the actual and potential significance of these industries to Utah's economy. It also estimates the relative magnitude of indirect effects in order to discern the overall effects. The study considers both the economic costs and benefits of wilderness.

This study does not attempt to place a monetary value on the benefits and costs of wilderness designation; rather, it examines the relative significance of the effects according to employment and income trends.

⁴T. M. Power, Professor and Chair, University of Montana Economics Department, Wildland Preservation and the Economy of Utah, 1991.

Study by the Utah Wilderness Coalition

A study by the Utah Wilderness Coalition discusses a 5.7-million-acre proposal for wilderness designation that the coalition has made.⁵ The study discusses the merits of each proposed wilderness area and discusses the nonmarket benefits of preservation. It qualitatively assesses some of the positive effects that could result from additional wilderness designation in Utah. The study is nonquantitative and does not attempt to place a monetary value on the various effects of wilderness designation. Because the acreage proposed in this study is larger than that studied by BLM in its wilderness inventory process, much of this proposed acreage has not been evaluated for its mineral resource potential. Consequently, the economic effect of designating this additional acreage is unknown.

Study by an Association of Local Governments

A study by the Southeastern Utah Association of Local Governments addresses the economic implications and local concerns about wilderness designation in the Sids Mountain Wilderness Study Area in east central Utah.⁶ It concludes that wilderness can impede economic activities on adjacent lands. It also concludes that, although costs of wilderness designation are difficult to quantify, "they will be real, they will be substantial, and they will be permanent." The paper is nonquantitative and does not attempt to place a value on the various effects of wilderness designation.

The paper identifies negative effects resulting from additional wilderness designation in Utah, including restrictions on water rights, implicit buffer zones around wilderness, and air quality restrictions. It also identifies intangible costs of designation that are difficult to quantify, such as lost freedom and self-determination—in other words, the lost rights that result from having what it terms an omnipotent centralized government exercising power over the affairs and future of a people.

⁵Wilderness at the Edge, Utah Wilderness Coalition, 1990, 400 pp.

⁶W. Howell, Sids Mountain Wilderness Study Area, An Economic Perspective, Southeastern Utah Association of Local Governments, 1990.

Study by a Brigham
Young University
Professor and a
Foreign Agricultural
Service Employee

This study, published in 1990 in the Journal of Environmental Management, measures the value of wilderness designation in Utah and concludes that Utah residents generally support additional wilderness acreage in Utah.⁷ It does not, however, conclude how much wilderness should be designated.

The authors, a Brigham Young University professor and a Foreign Agricultural Service employee, used a survey to determine how much Utah residents would be willing to pay for different amounts of wilderness. According to the survey results, average willingness-to-pay values range from about \$53 to about \$92 per year per household, depending upon the amount of wilderness to be preserved. Furthermore, 86 percent of the respondents think that it is "important" or "very important" to preserve some pristine, unique, and natural areas as wilderness in Utah. Seventy-nine percent of respondents support legislation to designate additional wilderness in Utah. About 12 percent thought preservation is only "slightly important" or "not important at all."

Thesis for Master's
Degree

This study, done as a thesis for a master's degree at Utah State University, statistically evaluated the rates of growth of wilderness and nonwilderness recreation use on Forest Service land and concluded that, from a recreational perspective, adding wilderness to the National Wilderness Preservation System is unwarranted.⁸

The study's statistical analysis of recreation use found that levels of primitive recreation use have increased at a more rapid rate on nonwilderness lands than on wilderness lands. The study compared the per-acre use at both wilderness and nonwilderness sites. It found that primitive recreation per-acre use on nonwilderness lands in Utah increased, while per-acre use on wilderness lands decreased. Although the study concluded that the value of additional wilderness is decreasing, it did not calculate the actual values of additional wilderness and nonwilderness.

⁷C. Arden Pope III and Jeffrey W. Jones, "Value of Wilderness Designation in Utah," Journal of Environmental Management, Volume 30, pp. 157-174, (Academic Press, 1990).

⁸Kim S. Christy, Benefit/Cost Variables and Comparative Recreation Use Patterns of Wilderness and Non-Wilderness Areas, Master of Science Thesis, Agricultural Economics, Utah State University, Logan, Utah, 1988.

The Effect of Wilderness Designation on Livestock Grazing Has Not Been Quantified

In light of concerns held by some Utah residents and ranchers about the effect of wilderness designation on grazing, Representative Wayne Owens asked us to determine whether the designation of areas as wilderness or as wilderness study areas has caused a precipitous decline in grazing levels. These concerns persist even though the Congress, in passing wilderness legislation, permitted grazing to continue in wilderness.

Neither the Forest Service nor the Bureau of Land Management (BLM) maintain grazing statistics in such a manner or for such time periods as to permit a determination of the effect of wilderness on grazing levels. However, the agencies' general grazing data show that grazing continues in areas with wilderness and wilderness study areas.

Some Residents Expect Grazing to Be Eliminated in Wilderness Areas

Some Utah residents have expressed concern that wilderness designation would eventually result in the elimination of livestock grazing from wilderness areas. The elimination of livestock grazing, they believe, would occur because of unrealistic restrictions on forage or other land maintenance practices, restrictions on access for movement and care of livestock, restrictions on the development of water, and limitations on predator control. These potential restrictions, some believe, will increase operating costs, which could make it economically unfeasible to graze animals on wilderness. These concerns persist despite assurances from federal land managers who say grazing will be allowed to continue.

The Congress Permitted Grazing to Continue in Wilderness

Under the Wilderness Act of 1964, preexisting livestock grazing is an accepted nonconforming use of wilderness. The 1964 act states that "...the grazing of livestock, where established prior to the effective date of this Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture."

Designation of Wilderness on Forest Service Land Did Not Stop Livestock Grazing

Despite fears to the contrary, grazing did not cease following the Forest Service's 1984 designation of wilderness in Utah. Although the Forest Service did not begin collecting data on grazing levels specifically for its Utah wilderness until 1985, BLM's 1990 Environmental Impact Statement (EIS) on Utah wilderness states that Forest Service records show that between 1980 and 1986, there were no decreases in permitted livestock in Forest Service wilderness areas in the region (which includes Utah) due to wilderness management.

Forest Service data compiled every 5 years beginning in 1985 show that the number of sheep permitted to graze in Utah wilderness declined by about 72 percent from 1985 to 1989, but in those same years the number of cattle permitted to graze increased by about 18 percent. Forest Service officials do not believe that wilderness designation caused the decline in sheep grazing; rather, poor market conditions (such as the low price of lamb) in combination with drought conditions are believed to be the primary reasons for the decline.

Although we identified no studies addressing the effect of wilderness on grazing levels specifically in Utah, we did identify a study by a University of Arizona professor that evaluated Forest Service and permittee behavior on two national forests in Arizona containing wilderness.¹ The study involved a comparison of data for grazing units with and without wilderness. According to the study, wilderness designation was not followed by permitted use reductions by the Forest Service. Instead, there was a general increase in the number of animals permitted to graze on units with wilderness as compared to units without wilderness.² Overall, the study found that wilderness designation had no significant effect on ranchers' expectations and willingness to invest in their operations, at least as measured by the turnover in grazing permits or ranchers' non-use of grazing permits. However, the study also found that the effect of wilderness designation on these measures was forest-specific, indicating that the impact of wilderness designation on grazing varies from forest to forest.

BLM Data Are of Limited Usefulness in Determining the Effect of Wilderness Study Areas on Livestock Grazing

The effect of management restrictions in BLM's Utah wilderness study areas on grazing levels is difficult to ascertain because BLM has not maintained annual data for grazing levels specifically in the wilderness study areas. BLM's guidance for wilderness study areas prescribes that they should be managed so as not to impair their suitability for wilderness designation. Such "non-impairment criteria" allow maintenance of existing structures and installations and motor vehicle access if necessary for livestock grazing, but only when authorized by BLM. BLM officials in the Utah resource areas containing wilderness study areas do not believe that grazing has declined as a result of the wilderness study areas designated in

¹Mitchel P. McClaran, "Forest Service and Livestock Permittee Behavior in Relation to Wilderness Designation," *Journal of Range Management*, Sept. 1991, pp. 483-486.

²A simple comparison of numbers showed an increase in the number of animals permitted to graze on units with wilderness, as compared to units without wilderness. This increase was statistically significant at the .90 level of confidence, but was not so at the .95 level of confidence.

1980. Furthermore, BLM's Utah Statewide Wilderness Study Report states that wilderness designation will not significantly affect livestock management and grazing on a statewide basis. However, the report also states that restrictions on access would cause inconvenience and possible increases in management costs for operators in about half of the study areas.

Although BLM does not collect and centrally maintain data on grazing for each individual wilderness study area, the agency compiled data for its EIS from grazing allotment files maintained in resource area offices. These data show that grazing continues in the wilderness study areas. According to BLM's wilderness study report, approximately 339 livestock operators (about 19 percent of the permittees on Utah BLM land) make use of an estimated 95,345 animal unit months (AUMs) of livestock forage in the BLM wilderness study areas.³

BLM does, however, collect data for each resource area in Utah, and these data indicate that grazing has not declined overall in the resource areas containing wilderness study areas. To illustrate, the following graphs reflect grazing trends between 1981 and 1988 in BLM's 5 districts and 16 resource areas in Utah.⁴ They show that in 12 of BLM's 13 resource areas containing wilderness study areas, the number of authorized AUMs increased in the years 1981 to 1988, following the 1980 designation of BLM's Utah wilderness study areas. For the same period, the number of authorized AUMs decreased in two of the three resource areas without wilderness study areas. Although our analysis of the resource area data did not isolate the effects of wilderness study areas on grazing from other possible causes, the data indicate whether resource area changes have occurred since study areas were identified.

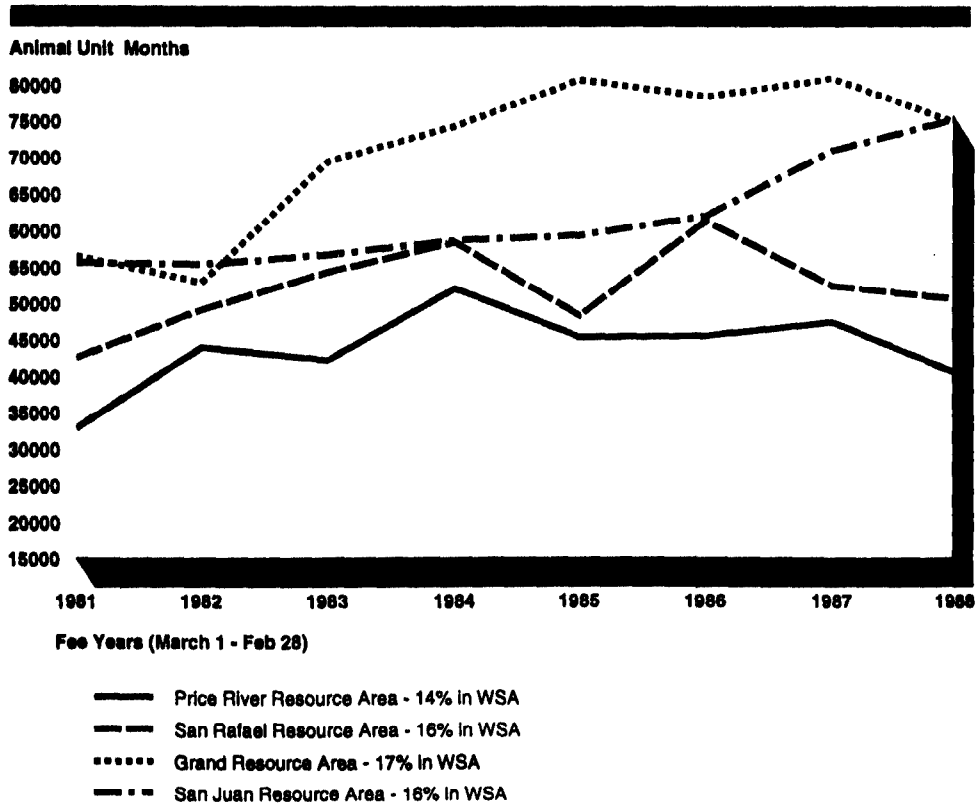
Figure III.1 illustrates the grazing trends for BLM's resource areas in the Moab District in Utah. Thirty-two of the 83 wilderness study areas (WSAs) lie within the boundaries of this district.

³Authorization to graze livestock on BLM allotments is granted through the issuance of grazing permits and leases. Each grazing permit specifies the amount of forage that is attached to each allotment. The allotted amount of forage is measured in animal unit months, defined as the amount needed to sustain one cow, one horse, or five sheep for 1 month. According to a BLM official, the number of authorized AUMs is the best approximation of the amount of livestock actually on public land.

⁴More recent data are not comparable because of changes in the accounting system.

**Appendix III
The Effect of Wilderness Designation on
Livestock Grazing Has Not Been Quantified**

Figure III.1: Resource Area Grazing Trends in the Moab District

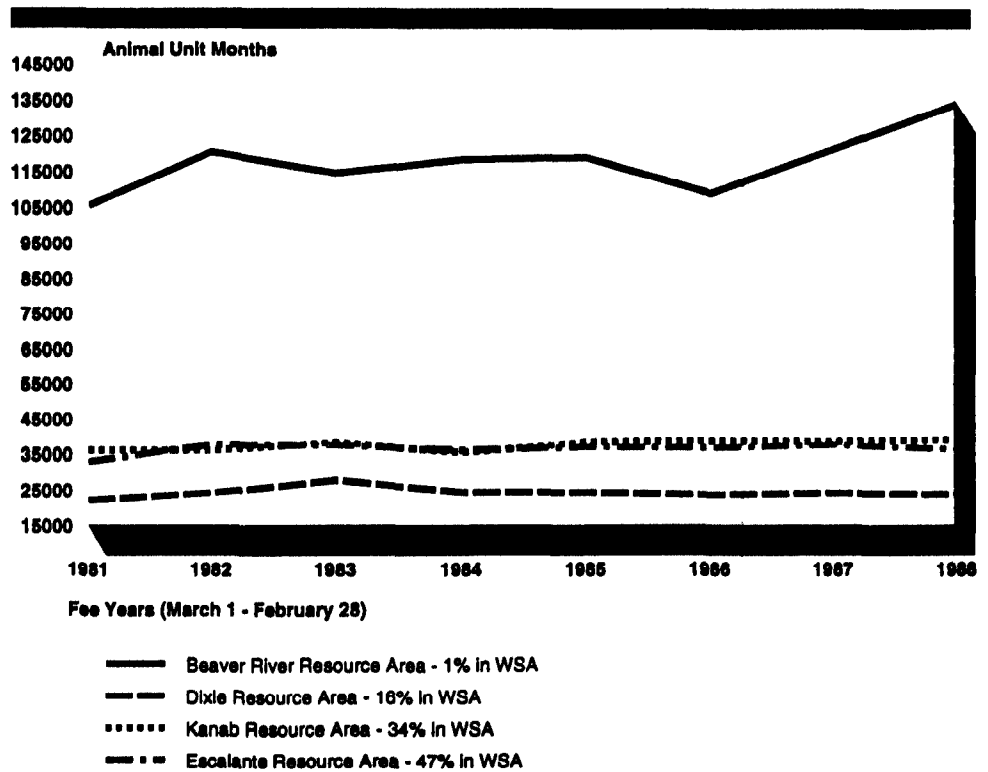


Note: Percentage following each resource area name indicates approximately how much of the resource area's acreage is being studied for wilderness designation.

Figure III.2 illustrates the grazing trends for the BLM resource areas in the Cedar City District in Utah. Thirty-six of the 83 WSAs lie within the boundaries of this district.

**Appendix III
The Effect of Wilderness Designation on
Livestock Grazing Has Not Been Quantified**

Figure III.2: Resource Area Grazing Trends in the Cedar City District

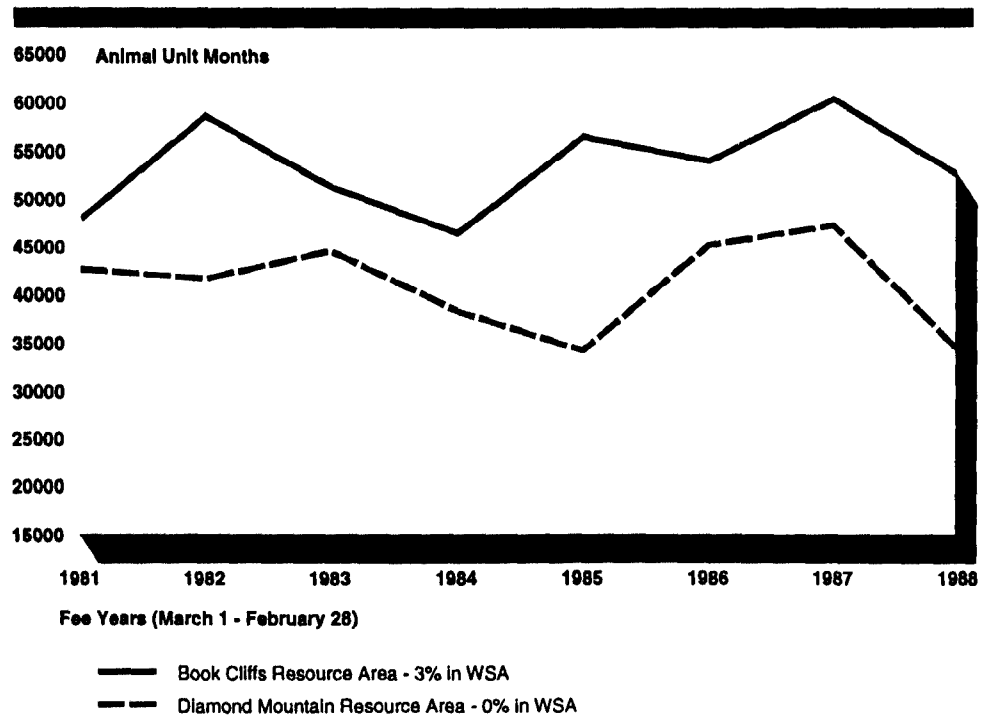


Note: Percentage following each resource area name indicates approximately how much of the resource area's acreage is being studied for wilderness designation.

Figure III.3 illustrates the grazing trends for the BLM resource areas in the Vernal District in Utah. Two of the 83 WSAs lie within the boundaries of this district.

**Appendix III
The Effect of Wilderness Designation on
Livestock Grazing Has Not Been Quantified**

Figure III.3: Resource Area Grazing Trends in the Vernal District



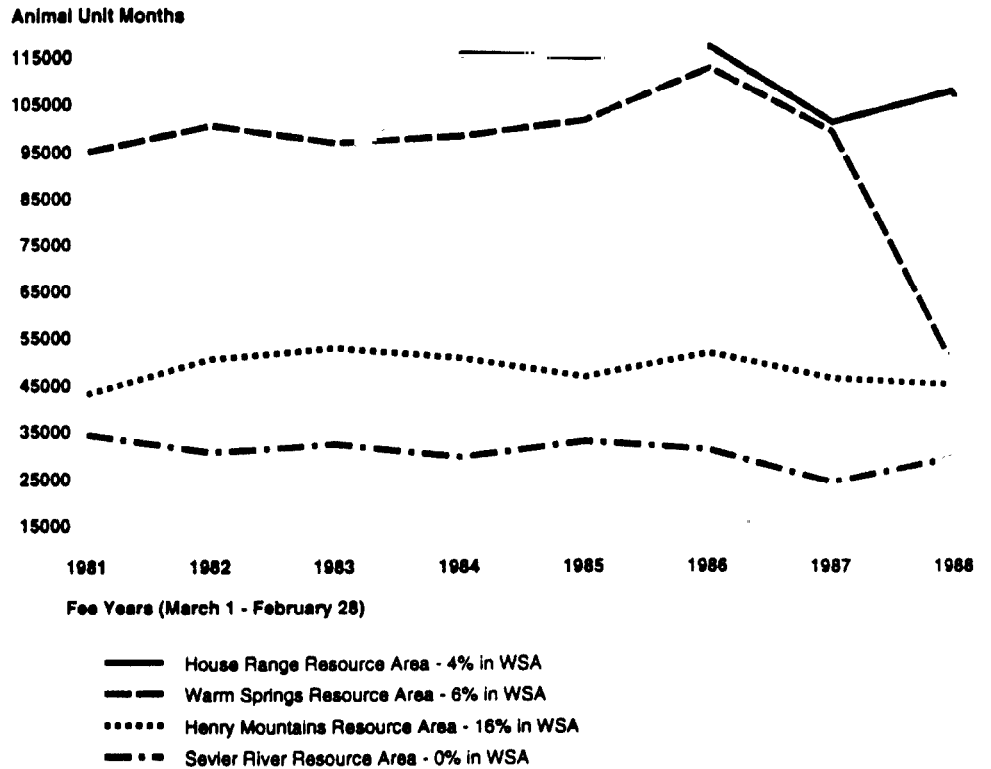
Note: Percentage following each resource area name indicates approximately how much of the resource area's acreage is being studied for wilderness designation.

Figure III.4 illustrates the grazing trends for the BLM resource areas in the Richfield District in Utah.⁶ Nineteen of the 83 WSAs lie within the boundaries of this district.

⁶According to a BLM official, the decline in grazing in the Warm Springs resource area may be an omission of data rather than a drop in grazing.

**Appendix III
The Effect of Wilderness Designation on
Livestock Grazing Has Not Been Quantified**

Figure III.4: Resource Area Grazing Trends in the Richfield District

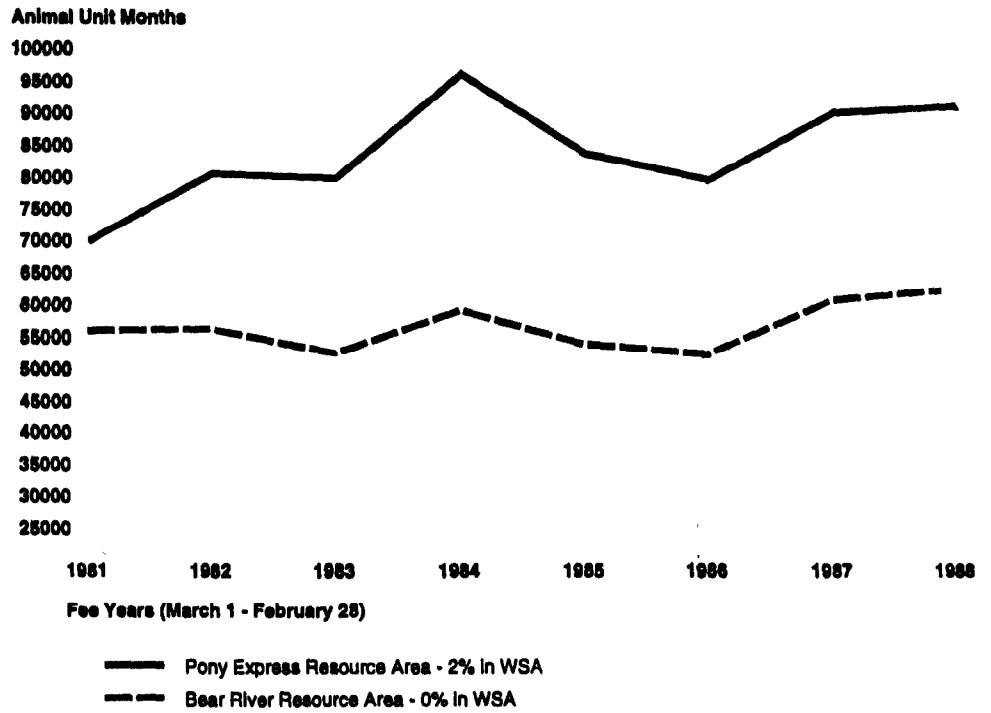


Note: Percentage following each resource area name indicates approximately how much of the resource area's acreage is being studied for wilderness designation.

Figure III.5 illustrates the grazing trends for the BLM resource areas in the Salt Lake District in Utah. Three of the 83 WSAs lie within the boundaries of this district.

**Appendix III
The Effect of Wilderness Designation on
Livestock Grazing Has Not Been Quantified**

**Figure III.5: Resource Area Grazing
Trends in the Salt Lake District**



Note: Percentage following each resource area name indicates approximately how much of the resource area's acreage is being studied for wilderness designation.

Comments From the Western Economic Analysis Center

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

WEAC

Western Economic Analysis Center

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Marana, Arizona 85653

(602) 682-4121

September 30, 1992

James Duffus III
Director, Natural Resource Management Issues
United States General Accounting Office
Washington, D.C. 20548

Dear Mr. Duffus:

Thank you for your letter of September 18, 1992, which I received on September 22, 1992, giving me the opportunity to comment on your agency's analysis of my 1990 report, The Adverse Economic Impacts of Wilderness Land Withdrawals in Utah, which I did for the Utah Association of Counties. I am amazed that it took your staff so long to review my study and then come up with a report (your Appendix I) that was really just a restatement of criticisms made two years ago by members of the academic community at the University of Montana and the University of Utah, apparently at the behest of the Southern Utah Wilderness Alliance.

I am not amazed, however, at the content of your Appendix I, since you admit (as I was informed a year ago) that your report was being done for Representative Wayne Owens (D-Utah), a vocal advocate of increased wilderness in Utah. It is, of course, well known that the General Accounting Office is a subservient agency of the Congress, which as we all know is controlled by Mr. Owens' party. Your staff obviously produced a report that should be pleasing to Mr. Owens.

I was not surprised, either, that you plan, at Mr. Owens' request, to release your report in late October, just in time for him to use it as ammunition in his political campaign for a seat in the Senate. Your report is obviously a political document, designed to assist Mr. Owens' bid for political office, and is not a bona fide economic analysis. I expected that, of course, and I harbor no ill will toward your staff, who were all very pleasant in their contacts with me about the report. Nevertheless, I am fully aware that your report's adverse reflection on the quality of my professional work might be considered by some as injurious to my professional reputation, career, and earnings potential. I am prepared to take any steps I deem necessary to protect my professional reputation and integrity and have so advised my client in this matter, the Utah Association of Counties.

See comment 1.

Appendix IV
Comments From the Western Economic
Analysis Center

In addition to these general comments on Appendix I of your draft report entitled, Wilderness: Effects of Designation on Economy and Grazing in Utah, evaluating my 1990 study of the economic impact of proposed wilderness land withdrawals in Utah, I would like to offer the following specific comments:

Now on page 16.
See comment 1.

1. Your statement, on page 18, that my "study's conclusions are based on unreasonable assumptions and flawed methodology and should not be used in reaching a decision on wilderness designations in Utah," is patently false and itself based, not only on unreasonable assumptions and flawed methodology, but also on faulty logic that reaches a conclusion not even supported by your report's own analysis and which involves a considerable amount of tautology.

Now on page 16.
See comment 2.

2. In your first "for instance" on page 18, the estimated economic loss for the state of Utah of \$13 billion per year that you quote is not comparable to any existing estimate for Utah's gross state product, but represents a much different concept. It is, in fact, the sum of expected losses in personal, business, and state and local government income. The personal income component of that total represents about 9% of total personal income in Utah in 1988, not half, as you imply. Furthermore, in the same paragraph you acknowledge that the resources in the wilderness study areas have not been developed. This, of course, has already depressed economic activity in the state. Your citation of the BLM's opinion about the economic development potential of the wilderness study areas is like asking the fox if the hens are safe.

See comment 3.

Now on page 16.
See comment 4.

3. Your statement, on page 19, that I assumed that all recreational activity on wilderness lands would cease is not true. My estimate is for a net loss based on an expected decrease in activities having the greatest local economic impact but a continuation or increase in some recreational activities, albeit those with minimal economic impact.

Now on pages 16-17.
See comment 5.

4. Your "Study Overview" on page 19 neglects to mention that I evaluated the economic impacts of the BLM's recommended alternative as well as its all-wilderness alternative and the proposals of Mssrs. Hansen and Owens.

Now on page 17.
See comment 6.

5. Your statement, on page 19, that I assumed "very high probabilities of mineral development" is false. The probabilities used in my analysis ranged from zero for some areas to 100% for a few others and averaged about 50%. A 50/50 chance of mineral development in areas of known mineral deposits can hardly be considered very high. Your carefully selected "for example" on page 20 mentions lead, silver, zinc, and copper. These metals formed a very small part of the entire mineral resource base of

Now on page 17.

Appendix IV
Comments From the Western Economic
Analysis Center

See comment 7.

the areas studied, as did tar sands and oil shale. That is why my report assigned these particular minerals very low probabilities for development. Your discussion of the Mexican Mountain oil resources in Emery County is at variance with the BLM's Environmental Impact Statement and with reality.

Now on pages 17-18.
See comment 8.

6. Your criticism, on the bottom of page 20 and the top of page 21, of my assumption of 100% probability of mining some of the uranium resources in Washington County over the next 25 years quotes the Utah Energy Office and the United States Geological Survey but fails to recognize that at the time my analysis was made uranium was actively being mined from underground deposits in similar geologic formations just to the south of the Washington County wilderness study areas in northern Arizona. That fact is the reason for the 100% probability used in my analysis.

Now on page 18.
See comment 9.

7. Your criticism, on page 21, of my assumption of eliminated grazing on the proposed wilderness areas compares the study areas with existing Forest Service wilderness areas in the state, most of which have been sufficiently cherry-stemmed to allow access to grazing and most of which are small enough and near enough to metropolitan areas to permit economic access to cattle growers. That is not true of the vast areas of BLM land in non-metropolitan Utah that have been proposed for wilderness. Your comparison is invalid and inaccurate. Further, what BLM may say it intends and what would actually happen are not necessarily the same.

Now on page 18.
See comment 4.

8. Your statement, on page 22, that my study assumes all recreation in wilderness areas will cease is not true, as indicated in my comment No. 3. The character of current recreational use of the proposed wilderness land was not assumed, but concluded from the reports of the BLM itself and from Utah Fish and Game sources. The argument that hunting and fishing could be relocated to other areas is a spurious argument, akin to saying that oystering in Chesapeake Bay could be relocated to Delaware Bay if water pollution destroys the beds in the Chesapeake. It can be said about any economic activity, but does not consider the effective destruction of the existing resource. Further, any hunter who has tried to retrieve a dead deer knows that motor vehicle access to hunting land is virtually a necessity. The rest of your comment on recreation is just circular reasoning and neglects to note that "primitive" forms of recreation tend to have no local economic impact.

See comment 10.

Now on page 19.
See comment 11.

9. Your claim, on page 22, that my study "inaccurately defines and measures economic activity" is false on the face of it and is not supported by your own analysis. On page 23, your paragraph that claims my study inaccurately measures economic activities itself fails to recognize that the economy consists of three major

Now on page 19.

Appendix IV
Comments From the Western Economic
Analysis Center

sectors: business, government, and households and assumes that all personal income comes from business sales. Your analysis is not complete and results in only partial counting. My figures are complete, the result of full, not double, counting.

Now on page 19.

10. Your claim, on pages 22 and 23, that my aggregation of annual effects over 25 years "is misleading because it is not adjusted for the time value of money, which is a basic economic principle," is itself misleading and indicates your own lack of understanding of the "time value of money." My estimates are stated in constant 1989 dollars. The sums of annual values over the next 25 years are not adjusted for inflation, resulting in an understatement of the estimates to the extent that current dollars during those years will not be equivalent to 1989 dollars in purchasing power. Your comment indicates that you believe that my annual figures should be discounted to get a present value. My annual estimates, being in 1989 dollars are a present value. They have been effectively discounted by the rate of inflation. Even so, this is not an investment problem, requiring the calculation of a present value of a future stream of incomes expressed in current dollars. Your analyst apparently does not understand either the situation or the concept of the time value of money. This is a red herring issue, not even appropriate to the problem. In fact, the total foregone income, the opportunity cost of wilderness, in my study is an accurate representation of the generational loss resulting from wilderness designation. The more important figure, however, is the annual loss in 1989 dollars that forms the basis for the 25-year estimate.

See comment 12.

11. On page 24, your Appendix I asserts that my study "does not consider the intangible costs and benefits associated with wilderness designation." Of course it doesn't. Mine was an economic study, not an aesthetic or sociological one. Your comment is completely irrelevant and consists of 21 lines of patent nonsense that sounds suspiciously as though it came from propaganda distributed by the Southern Utah Wilderness Alliance.


Now on page 20.

See comment 13.

I realize that you are not likely to consider these comments with any seriousness, given the purpose of your review of my study, but I do appreciate the chance to respond and lower my blood pressure. I suggest that you might wish to consider the response of the Utah Association of Counties, however, before releasing your final report.

See comment 14.

Sincerely,


George F. Leaming, Ph.D.
Principal Consultant

GFL:nec

The following are GAO's comments on the Western Economic Analysis Center's letter dated September 30, 1992.

GAO's Comments

1. As agreed with the requester's office, we did not perform our own analysis of the economic effects of increasing the number of acres designated as wilderness in Utah. Rather, we performed an independent, objective critique of the assumptions and methodology used by the Center in performing its study. Our report clearly identifies the support for our conclusions, which we believe to be both reasonable and sound.
2. We agree that gross state product is not the same as income; however, the comparison is still useful. Gross state product is a measure of the value of goods and services produced in the state. Since the \$13 billion cited in the study is the Center's measure of economic loss that will result because some goods and services will not be produced, we used this comparison to provide perspective on the magnitude of the estimated loss as compared to the entire economy of the state, not to quantify the effect of the Center's projection on the gross state product. We clarified the wording in appendix I to reflect the intent of our comparison.
3. Our report cites information from and opinions of not only BLM but also the Utah Department of Natural Resources and the U.S. Geological Survey indicating that, even without wilderness designation, the likelihood of development of mineral resources in the study areas is low. Consequently, the likelihood that lands held in wilderness study area status has depressed the state's economy would also appear to be low.
4. Contrary to the Center's statement that its study considered both gains and losses in arriving at a "net loss" of recreation due to wilderness designation, the Center's calculation of the economic effects on recreation consisted of applying a value to the current and projected future visitor days contained in BLM's Environmental Impact Statement. The Center then considered this an economic loss, which effectively resulted in an assumption that recreational activity would cease.
5. Although the Center discussed the acreage proposed in each county for designation under BLM's recommended alternative, the Center did not include calculations of the economic effect of the recommended alternative in the published study as it did for BLM's all-wilderness alternative and the proposals of Representatives Hansen and Owens.

6. Of the probabilities of mineral development cited in its study, the Center used a probability of 50 percent or more in 99 percent of the cases, with the probabilities averaging 66 percent. We found only one case in the published study where the computation of losses due to foregone mineral development opportunities was based on a probability of less than 50 percent. Whether these probabilities are high or low is subjective; therefore, we deleted our characterization of them in the report as being high. However, we continue to state in the report that the evidence shows that the probabilities of mineral development used in the study are overly optimistic.

7. Our discussion of the Mexican Mountain oil resources in Emery County is based on information taken directly from BLM's Environmental Impact Statement. Neither the statement nor a U.S. Geological Survey Bulletin for the area assigns a 75-percent probability—or any other probability—to the development or sale of oil and gas in the area, as did the Center's study.

8. A 100-percent probability indicates certainty that an entire estimated resource will be developed and sold at a given price. However, as we state in our report, the Utah Energy Office has taken the position that all of the estimated uranium resources postulated to exist in the state's wilderness study areas are speculative resources that fall into the undiscovered resources category; this would not appear to warrant assigning a development probability of 100 percent.

9. The available evidence shows that grazing has continued in Utah in designated wilderness areas and in wilderness study areas, which does not support the Center's assumption that grazing will be completely eliminated in these areas. Wilderness legislation allows grazing to continue in wilderness areas, and BLM and the Forest Service have issued guidance that allows grazing to continue. Using a range of assumptions—from 100 percent elimination to no change, with one or more scenarios in between—would have provided the Center's study with more reasonable results.

10. Our point is that the Center's assumption that recreation will be eliminated is unreasonable because it is based on recreation being primarily hunting, which requires motorized access to the areas—which would be prohibited if the areas were designated wilderness. Although prohibiting motorized access restricts some recreation and alters the manner in which other recreation may occur (e.g., on foot or using horseback, in lieu of motorized vehicles), it does not destroy the resource.

In addition, BLM's Environmental Impact Statement states that wilderness designation could lead to a temporary increase in certain types of recreation with use patterns soon returning to normal. In our opinion, this indicates that recreation, at whatever level and type, would generate at least some level of economic activity in the area.

11. Economic activity can be measured either by the value of goods and services produced or by the income generated in producing these goods and services. The point we make in the report is that the Center mixed elements of these two separate measures of economic activity, resulting in double-counting. For example, to determine the value of mineral revenue foregone, the Center calculates a "business income" by multiplying a market price for the mineral by the potential quantity of the mineral to be extracted if the land were not designated as wilderness. What the Center refers to as "business income" is usually referred to by economists as "gross sales," or the value of goods and services produced. This gross sales measure generally includes the cost of producing the goods and services, including wages, salaries, rents, taxes, other expenses, and profits. The Center then inappropriately derives both what it calls "personal income" and "government income" by multiplying "business income" (gross sales) by factors for each of the other incomes, and then adding these two estimates back to the original "business income" estimate, which results in a distorted measure of economic activity.

12. The value of a dollar today is less than the value of a dollar tomorrow for two separate reasons—inflation and the time value of money. In other words, even if the rate of inflation were zero, the value of money today would be less than the value tomorrow because of the lost opportunities for other, productive uses of that money. Adjusting for inflation is generally done through "deflating," which results in real or constant dollars. This is what the Center did in its study, and we have no quarrel with this technique. What the Center should also have done, but did not do, was to adjust for the time value of money, which is done by "discounting," using a real interest rate. Both adjustments are frequently used for economic analyses dealing with aggregation or comparison of values over different time periods, not just financial investment problems.

13. Segments of the economics profession are devoted to defining and valuing intangible benefits and costs that the Center calls irrelevant because it considers them aesthetic or sociological, not economic. We recognize that some of these benefits and costs cannot be easily quantified. However, we believe that any reasonably balanced study

should recognize that they exist and should clearly state whether they are factored into the study's results.

14. We solicited comments from the Center because it performed the study that we evaluated. We did not request comments from the Utah Association of Counties, which commissioned the study. During the course of our work, however, we discussed the Center's study with representatives of the association and obtained their viewpoints on the issue of wilderness designation in Utah.

Comments From the Department of the Interior

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240



OCT 16 1992

Mr. James Duffus III
Director, Natural Resources
Management Issues
Resources, Community, and
Economic Development Division
General Accounting Office
Washington, D.C. 20548

Dear Mr. Duffus:

This letter transmits our comments on the General Accounting Office (GAO) draft report entitled Wilderness: Effects of Designation on Economy and Grazing in Utah (GAO/RCED-92-236).

In reviewing the draft report, we have noted a minor omission that you may wish to correct prior to printing the report in final form. On page 5, paragraph 3, between existing sentences 2 and 3, you may wish to state that the President submitted his recommendation for Utah to the Congress on June 26, 1992. Existing sentence 3 could then be deleted.

The Bureau of Land Management's conclusions regarding the socioeconomic impacts of designation of wilderness in Utah are spelled out on pages 7 and 8, Volume 1, Statewide Overview of the Utah Statewide Wilderness Study Report dated October 1991. That information is enclosed and may be useful to you as you finalize the report.

Thank you for allowing us to review the draft report.

Sincerely,

FOR David C. O'Neal
Assistant Secretary, Land and
Minerals Management

Enclosure

Now on page 4.
See comment 1.

See comment 2.

Appendix V
Comments From the Department of the
Interior

Wording from Wilderness Study Report, pp. 7-8

"Overall, designation of the BLM study areas would not substantially affect Utah's economy. In general, data indicate that there is not a permanent link between wilderness and increase in recreational visitation. Therefore, wilderness designation would not result in appreciable gains in local employment or income from tourism. Conversely, livestock grazing, mineral developments and other activities that would occur in the study areas if they are not designated wilderness, generally would not contribute significantly to the local economies of Utah. Compared to a significance standard of 5 percent change, the potential for future employment, or jobs foregone with designation of all of the study areas would not be significant to any of the multi-county districts (MCDs) or local communities; except for those jobs that may be foregone with elimination of the long-term potential for future extraction of large quantities of tar sand and coal in Emery, Wayne, Uintah, Garfield, and Kane Counties. These foregone mineral extraction jobs would likely not be significant to any of the MCDs as a whole but may be significant to certain nearby communities where the jobs foregone could equal or exceed 5 percent of the baseline labor force. Most existing and allowed activities within study areas would continue to have a widely dispersed effect on local sales. The only significant (greater than 5 percent) impact would occur in localities immediately adjacent to the study areas where substantial potential employment and sales related to the long-term possibilities for major tar sand and coal projects would be foregone. Federal revenues of up to \$4.4 million from mineral activities (including speculative oil and gas leasing) largely would be foregone. Those from grazing in WSAs would remain essentially the same as now exists, but up to \$5,248 in potential annual grazing revenues would be foregone. Revenues from commercial recreation visitation would increase slightly."

**Appendix V
Comments From the Department of the
Interior**

The following are GAO's comments on the Department of the Interior's letter dated October 16, 1992.

GAO's Comments

1. The report has been revised to recognize this comment.
2. In appendix II, we added the point that although BLM concluded that its recommended wilderness designation alternative of about 1.9 million acres would not significantly affect Utah's economy, the effect could be significant (greater than 5 percent) in localities immediately adjacent to the study areas.

Comments From the Department of Agriculture

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



United States
Department of
Agriculture

Forest
Service

Washington
Office

14th & Independence SW
P.O. Box 96090
Washington, DC 20090-6090

Reply To: 1420

Date: OCT 07 1992

Mr. James Duffus III
Director, Natural Resources Management Issues
Resources, Community, and Economic
Development Division
U. S. General Accounting Office
Washington, D. C. 20548

Dear Mr. Duffus:

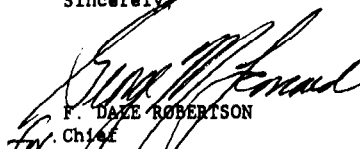
Thank you for allowing us an opportunity to review the draft report Wilderness: Effects of Designation on Economy and Grazing in Utah, RCED-92-236.

With respect to mineral development, we find the report somewhat misleading. On page 2, under Results in Brief, the statement is made that mining activities are "allowed" in wilderness areas with "some" limitations. In fact, the effect of wilderness designation on mineral extraction is substantial. The area is closed to oil and gas, coal, geothermal, and all other energy or mineral leasing and, except for valid existing rights, is closed to operation of the General Mining Law. The area is also closed to sand, gravel, and building stone production.

On page 8, the report relies on a probability of success ratio provided by the U.S. Geological Survey to characterize the likelihood of oil production from the Mexican Mountain Wilderness Study Area (WSA) as being very low. However, the ratio is generic. It may not be applicable to an area that has been unavailable to exploration for many years. Until an area has been explored, it is premature to assume it has low potential. In Appendix I, the report references a BLM EIS which stated that there were no direct data available to support or refute the occurrence of petroleum within the Mexican Mountain WSA. Similarly, the report is premature in assuming most deposits of strategic and critical minerals in the proposed wilderness areas are of low quality and quantity.

We believe the first paragraph on page 35 should be reworded as follows: "The Wilderness Act of 1964 states that . . ."

Sincerely,


F. DALE ROBERTSON
Chief

cc:
Rge
RCR&WM
M&G



Caring for the Land and Serving People

FS-6200-286(4/88)

See comment 1.

Now on page 6.
See comment 2.

See comment 3.

Now on page 27.
See comment 4.

The following are GAO's comments on the Department of Agriculture's letter dated October 7, 1992.

GAO's Comments

1. We revised the report to more clearly state that, where valid existing rights exist, mining and grazing activities are allowed by law and regulation to continue. However, the available evidence for Utah does not support Agriculture's comment that the effect of wilderness designation on mineral extraction is substantial. While wilderness designation may preclude future mineral development where no valid existing rights exist, BLM minimized the effect of designation on mineral extraction in Utah, as discussed in appendix II, by eliminating from its wilderness designation proposal all areas identified as having significant potential for future mineral development.
2. We have removed our characterization of probabilities being high or low from the report. We continue to state that the Western Economic Analysis Center's assumption of a 75-percent probability for oil development is overly optimistic in comparison to (1) available information in BLM's Environmental Impact Statement and (2) comments from U.S. Geological Survey geologists that the likelihood is about 11 percent of finding oil in areas with unproven oil potential. We did not attempt to assign an alternative probability or to characterize probabilities as high or low. The BLM Environmental Impact Statement states that no direct data are available to support or refute the occurrence of petroleum within the Mexican Mountain Wilderness Study Area, and its assertion that the probability of development following exploration is low supports our conclusion that the Center's assumption is overly optimistic.
3. The assessment of most deposits of strategic and critical minerals occurring in wilderness study areas as low in both quality and quantity came from BLM's Environmental Impact Statement. Again, we did not attempt to assign a probability of development or render an assessment of the existence of minerals in a given area. Rather, we attempted to demonstrate that the Center's assumptions are overly optimistic on the basis of the available evidence.
4. The report was revised to state that under the Wilderness Act of 1964, preexisting livestock grazing is an accepted nonconforming use of wilderness.

Comments From the State of Utah

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



Norman H. Bangertor
Governor
Charles E. Johnson, CPA
Director
Brad T. Barber
Deputy Director

State of Utah OFFICE OF PLANNING AND BUDGET

116 State Capitol
Salt Lake City, Utah 84114
(801) 538-1027

October 2, 1992

James Duffus III
Director, Natural Resources Management Issues
General Accounting Office
Washington, D.C. 20548

Dear Mr. Duffus:

Thank you for the opportunity to review the General Accounting Office draft report entitled *Wilderness: Effects of Designation on Economy and Grazing in Utah*. The Utah Office of Planning and Budget has played a critical role in evaluating proposals for additional wilderness in Utah and we believe your report provides useful information for the public and policy makers to consider in making decisions about the wilderness issue.

Our comments are limited to just a few points, some that are related directly to your study and some that pertain more generally to the wilderness issue.

1. In footnote 3 on page 26, we would prefer that you refer to our report as "unpublished draft report" rather than "draft report".
2. We believe it is worth noting in your section describing our internal analysis (pages 26-29) that we did not analyze the economic impacts of Congressman Owens' bill, H.R. 1500. Our negative impact scenario was based on the BLM wilderness inventory of 3.2 million acres. Since Congressman Owens' proposal includes over 5 million acres, the impacts from his proposal would be outside of the range we have identified.
3. We agree with your conclusion on page 14 that "...the effect on Utah's economy of designating additional acreage in the state as wilderness has not been adequately quantified." We believe, however, that it should be more strongly articulated in your report that the economic effects of wilderness cannot be reasonably and comprehensively quantified until there is more reliable information for analysts to base their assumptions on. To do a comprehensive study economists need more specific and reliable information about the amount of mineral resources located in potential wilderness areas, the number of and expenditures made by wilderness recreationists, and the non-market values associated with wilderness preservation. Without this type of original data collection, all economic studies will fall short in quantifying the economic effects. Decision makers are faced with either making a decision based on incomplete information or paying large amounts of money for data collection.
4. Your report should recognize that a major effort to analyze the economic effects of wilderness designation in Utah has recently been initiated. The study is being coordinated by Dr. Jay Andersen, a professor of Economics at Utah State University. The study is a multi-year effort, includes some original data collection, and is being funded by mineral lease monies. For more information about the study contact Dr. Andersen at (801) 750-2293.

Now on page 22.
See comment 1.

Now on page 23.
See comment 1.

Now on page 10.
See comment 2.

See comment 1.

Appendix VII
Comments From the State of Utah

See comment 1.

5. We want to stress that the range of likely impacts identified in our internal analysis was quantified at the state and multi-county level. We believe that because of Utah's large and well-diversified economy it is not surprising that our analysis estimated that wilderness designation will have only modest effects on the state's economy as a whole. The impacts on local economies and communities, however, were not addressed in our report and could be large in some areas. We strongly believe that the economic impacts on local economies need to be analyzed further.

See comment 2.

6. We agree with your criticisms of the Western Economic Analysis Center report.

See comment 1.

7. While your report does an admirable job of summarizing several of the economic studies that have been completed on the Utah wilderness issue, we believe your report would be strengthened if it acknowledged several issue of critical concern that all have economic ramifications. Specifically we are concerned about buffer zones, reserved water rights, pest/predator control and alternative ways to protect wilderness values.

Wilderness designation is a divisive, sensitive issue for the state. I hope these comments are helpful. As the State Planning Coordinator I appreciate your attempts to provide Congress and our state with additional information.

Sincerely,



Brad T. Barber
State Planning Coordinator

The following are GAO's comments on the State of Utah's letter dated October 2, 1992.

GAO's Comments

1. The report has been revised to incorporate this comment.
2. This comment is addressed in the agency comments section of the report.

Major Contributors to This Report

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