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Report to the Chairman, Subcommittee on National Parks and Public Lands, Committee on Interior and Insular Affairs, House of Representatives

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# RANGELAND MANAGEMENT

## Comparison of Rangeland Condition Reports

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Resources, Community, and
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The Honorable Bruce F. Vento
Chairman, Subcommittee on National Parks
and Public Lands
Committee on Interior and Insular Affairs
House of Representatives

Dear Mr. Chairman:

In your letter dated April 12, 1990, you requested that we follow up on our 1988 report[1] on the rangeland management programs administered by the Department of the Interior's Bureau of Land Management (BLM) and the U.S. Department of Agriculture's Forest Service. In that report we stated that BLM range managers believed over 40 percent of the public rangeland to be in either poor or fair condition (the lower two of four classification categories). Just as significantly, the managers did not know the condition of nearly 30 percent of the public rangeland.

One of the concerns raised in your letter deals with two studies on the condition of the public rangeland under BLM's jurisdiction issued subsequently to our report: One study was issued in 1989 by the Natural Resources Defense Council/National Wildlife Federation (NRDC study)[2] and the other in 1990 by BLM.[3] The NRDC study concluded that much of BLM's rangeland was in unsatisfactory condition, while the study by BLM concluded that its public rangeland is improving and in better condition than ever before in this century. As agreed with your office, this report examines these two studies, comparing their conclusions and analyzing their findings in the context of our previous report.

## Results in Brief

The NRDC and BLM reports reached different conclusions on the overall condition of the public rangeland. However, the conclusions are not necessarily inconsistent with each other and can be attributed more to the context in which the available data on rangeland conditions were interpreted and presented than to differences in the data themselves. In fact, the 1989 data that both reports relied on were produced by BLM. BLM

[1] Rangeland Management: More Emphasis Needed on Declining and Overstocked Grazing Allotments (GAO/RCED-88-80, June 10, 1988).

[2] Our Ailing Public Rangelands: Still Ailing! (Washington, D.C.: Oct. 1989).

[3] State of the Public Rangelands 1990 (Washington, D.C.: Mar. 1990).

placed the data on current conditions in a historical context and concluded that conditions were improving. NRDC viewed the data in a current context and found the conditions they portrayed to be unsatisfactory. In addition, the rangeland data that both BLM and NRDC presented were comparable to the data we presented in our 1988 report, after making adjustments for uniformity of presentation.

With respect to BLM's conclusion that current range conditions are better than they have been in the past century, we found that the studies BLM used to support this view lack supporting documentation and were produced using different methodologies. As a result, BLM's conclusion is of questionable validity. BLM agrees that the use of different methodologies makes it difficult to track trends and states its intention to collect data on a consistent basis in the future. Nonetheless, BLM continues to believe that a trend toward rangeland improvement is discernable.

## Background

According to the 1990 BLM rangeland condition report, the agency administers livestock grazing on about 170 million acres of federal rangeland in 16 western states. To administer the grazing activity, the land is divided into about 22,000 separate grazing areas known as allotments. Annually, 3.5 million head of domestic livestock graze on BLM's allotments. Much of the rangeland on which livestock grazing is permitted is fragile and can be seriously damaged by misuse. When more livestock than the land can support are continually allowed to graze on the public rangeland, the result can be damage to, and even permanent loss of, range resources.

Environmental and other groups have raised concerns about the damage livestock grazing has caused on the public range. It is generally recognized that overgrazing by livestock in the past has contributed to soil erosion, watershed destruction, and the loss of native grasses and other vegetation that provide forage for livestock and wildlife. There is less agreement, however, on the current condition of the land and the effect of present grazing practices.

As we reported in June 1988, the absence of current data on rangeland conditions has fueled this debate. Lacking up-to-date information from agency records, we surveyed BLM range managers to obtain their professional opinion on land conditions. These managers considered 29 percent of BLM rangeland to be in "good" to "excellent" condition and 43 percent

to be in "fair" to "poor" condition.[4] The managers did not have information to offer an opinion on 28 percent of the land. Subsequent to our report, both NRDC and BLM issued their respective studies on rangeland conditions.

## Differences Between NRDC and BLM Reports Largely Attributable to Data Presentation

NRDC's report addressed the condition of 138 million acres of BLM rangeland and concluded that over 94 million of these acres, or over 68 percent, were in unsatisfactory condition. In contrast, BLM chose to highlight its view that 33 percent of its 170 million acres of rangeland, or over 56 million acres, were in good to excellent condition. (See table 1.) Viewing conditions from a historical perspective, BLM regarded this status as representing a significant improvement.

**Table 1: Comparison of Rangeland Conditions as Reported by NRDC, BLM, and GAO**

| | Percent of rangeland, by condition class | | | | |
|---|---|---|---|---|---|
| Report | Excellent | Good | Fair | Poor | Unclassified |
| NRDC (1989) | 2.4 | 29.2 | 42.0 | 26.4 | |
| BLM (1989)[a] | 3.0 | 30.0 | 36.0 | 16.0 | 14.0 |
| GAO (1988) | 6.0 | 23.0 | 31.0 | 12.0 | 28.0 |

[a]BLM percentages do not add to 100 due to rounding.

Several reasons account for BLM's and NRDC's different conclusions on rangeland conditions; however, a closer examination reveals that the underlying data are not significantly different. To arrive at its conclusion that 68 percent of BLM's rangeland was in unsatisfactory condition, NRDC combined the percentages in the fair and poor categories (42.0 plus 26.4). In making its calculations, NRDC excluded rangeland not included in one of the four condition classification categories. BLM and others have historically equated excellent and good as being satisfactory, and fair and poor as being unsatisfactory rangeland conditions. However, the current position of BLM, as noted in its report, is that use of the terms excellent, good, fair, and poor can be misleading and that rangeland ranked as fair can often produce high-quality forage, wildlife cover, watershed protection, and an aesthetic landscape.

By comparison, BLM, in reporting that 52 percent of rangeland was in fair or poor condition also reported that it did not know the condition of 14 percent of its rangeland. If BLM had calculated its percentages solely

[4]According to BLM's definitions, range that is 76 to 100 percent similar to the natural plant community is rated excellent, 51 to 75 percent similar is good, 26 to 50 percent similar is fair, and 0 to 25 percent similar is poor.

on the basis of the land for which it had condition information, as NRDC did, its percentage of rangeland in fair or poor condition would have increased to 61 percent—much closer to NRDC's percentage. Also, the total acreage NRDC counts as being in fair or poor condition amounts to 94.7 million acres, while BLM includes 90.1 million acres in these same two categories—a difference of only about 5 percent.

By comparison, our June 1988 report stated that BLM range managers considered 43 percent of the public rangeland to be in fair or poor condition, but these managers also reported that they did not know the condition of a higher percentage of the land—28 percent. Again, if we had calculated our percentages on the basis of the land for which the condition was known, as NRDC did, our percentage of fair and poor rangeland would have increased to about 60 percent, almost the same as in BLM's report.

Another reason for differences between the BLM and NRDC numbers involves the source documents each used to accumulate its data. NRDC reported that it reached its conclusion after examining land use plans and environmental impact statements prepared and published by BLM through June 30, 1989, and that these published data covered 79 percent of the total rangeland administered by BLM. BLM's data were as of September 30, 1989, and were compiled from end-of-fiscal-year rangeland status reports filed by BLM state offices. A BLM representative told us that these figures, which were also based largely on past published BLM data, may have contained updated data that were not available to NRDC.

## BLM's Conclusion on Long-Term Trends Not Supported by Documentation

We could not confirm BLM's conclusion that the public rangeland is in better condition than ever before in this century because the historic studies BLM relied upon were prepared using different methodologies in some cases and in other instances did not contain supporting documentation. Thus, their results are not comparable.

In support of its conclusion that rangeland conditions were improving, BLM's report presented data on range conditions collected at various points in time since 1936. As arrayed by BLM, these data (shown in table 2) show that since 1936 the percentage of the rangeland judged to be in good to excellent condition has doubled, from about 16 percent to 33 percent, while the percent classified as poor has been cut by more than half, from about 36 percent to 16 percent.

**Table 2: Historical Rangeland Conditions as Reported by BLM**

| | Percent of rangeland, by condition class | | | | |
|---|---|---|---|---|---|
| Year | Excellent | Good | Fair | Poor | Unclassified |
| 1936 | 1.5 | 14.3 | 47.9 | 36.3 | |
| 1966 | 2.2 | 16.7 | 51.6 | 29.5 | |
| 1975 | 2.0 | 15.0 | 50.0 | 33.0 | |
| 1984 | 5.0 | 31.0 | 42.0 | 18.0 | 4.0 |
| 1989 | 3.0 | 30.0 | 36.0 | 16.0 | 14.0 |

We attempted to assess the validity of the percentages BLM presented by examining its source documentation as well as data collection methodologies. We found little supporting documentation behind the earlier percentages. For example, the 1936 data shown in table 2 came from a U.S. Department of Agriculture report that categorized rangeland conditions but did not describe the basis on which the numbers were prepared.[5] In addition, BLM's 1966 rangeland condition data appear to be based on a one-page summary table presenting rangeland conditions without any further explanation or back-up documentation.

We also found that the data presented were not always comparable between years because different methodologies were used in their collection and compilation. For example, the 1975 rangeland condition data BLM reported were not comparable with the data reported for 1984 and 1989 because BLM changed its collection and reporting methodology. While all the data came from annual rangeland status reports prepared by BLM state officials, the 1975 percentages represented rangeland status in relation to ideal livestock grazing conditions, while the 1984 and 1989 percentages were based on rangeland conditions in relation to potential natural vegetation.[6] Regarding the data BLM reported for 1936 and 1966, we were unable to determine the methodologies employed in collecting the data because there was no methodology description contained in the supporting documentation we reviewed.

BLM recognizes that its data are not always directly comparable because of the different methods used to estimate rangeland conditions. BLM also states that it will refine its reporting procedures to achieve consistency

[5]The Western Range, U.S. Department of Agriculture, Senate Document No. 199, 1936.

[6]Prior to the 1980s, BLM based its rangeland condition classifications on livestock forage conditions (the measure of range well-being in relation to its potential forage under ideal grazing management). By comparison, starting in the 1980s, BLM has based its classifications on rangeland ecological conditions (the measure of range well-being in relation to its potential natural vegetation).

in future reports by reporting rangeland condition using the same terminology that the Forest Service uses in classifying its rangeland, which should result in uniform condition reporting on all federal rangeland. Regarding the lack of data comparability, BLM believes that rangeland deterioration reported between 1966 and 1975 was probably the result of a change in reporting methods. Also, a report by BLM's Wyoming state director noted that improvements suggested by the available data for Wyoming between 1975 and 1984 may have been due to different data collection procedures rather than actual changes in condition. BLM also noted that, in reality, no substantial change should have been expected to occur between 1984 and 1989 and that the slight decreases shown in table 2 for rangeland in excellent and good condition are attributable to different methods of reporting, as evidenced by the increased percentage for which the condition was not known. While recognizing the limits in the data, BLM nonetheless concluded that a general pattern of range improvement could be observed since 1936.

To further support its conclusion that the public rangeland is improving, BLM cites in its report a study by a rangeland expert[7] that also concludes that the rangeland is in better condition than ever before in this century. While the study citation is accurate, the author also noted that his conclusion was his professional opinion and could not be well documented with specific surveys and reports. Furthermore, the author was not optimistic about future rangeland trends. He stated that the upward trend was in danger of being reversed by a natural drought, along with insufficient federal funds and personnel to manage the public rangeland.

NRDC's report did not attempt to assess trends in rangeland condition over time. However, as shown in table 3, NRDC concluded that the data presented in its report did not show any significant improvement in rangeland condition over the data in its rangeland status report 4 years earlier. In this regard, BLM noted in its report that no substantial change should be expected to occur within only a 4-year period.

**Table 3: Rangeland Conditions as Reported by NRDC**

| | Percent of rangeland, by condition class | | | |
|---|---|---|---|---|
| Year of report | Excellent | Good | Fair | Poor |
| 1985 | 1.9 | 27.1 | 42.0 | 29.0 |
| 1989 | 2.4 | 29.2 | 42.0 | 26.4 |

[7]Box, T. "Rangelands," Natural Resources for the 21st Century (Washington, D.C.: American Forestry Association, 1990), pp. 113-118.

## Scope and Methodology

We conducted our review from September 1990 through April 1991 in accordance with generally accepted government auditing standards. We reviewed both BLM's and NRDC's studies and interviewed appropriate officials responsible for the reports. Also, we examined available documentation from BLM to support the reported rangeland conditions. We discussed the factual information in this report with BLM officials during our work, and they agreed with the report's accuracy. However, as requested, we did not obtain official agency comments on a draft of this report.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time we will send copies to the Secretary of the Interior and other interested parties. We will also make copies available to others upon request.

Please contact me at (202) 275-7756 if you or your staff have any questions concerning this report. Other major contributors to this report are listed in appendix I.

Sincerely yours,

James Duffus III
Director, Natural Resources
Management Issues

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