United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Washington, D.C. 20240
http://www.blm.gov

JAN - 2 2013

Mr. Jeff Ruch
Executive Director
Public Employees for Environmental Responsibility
2000 P Street, NW
Washington, DC 20036

Dear Mr. Ruch:

Your November 30, 2011, letter regarding the Bureau of Land Management's (BLM) alleged intentional exclusion of livestock grazing as a disturbance factor from the Rapid Ecoregional Assessments (REAs) conducted by the BLM was forwarded to us under the Department of the Interior (DOI) Procedures for Reporting and Resolving Allegations Regarding Loss of Scientific and Scholarly Integrity (Chapter 3 of Part 305 of the Departmental Manual (305 DM 3)).

Consistent with 305 DM 3.8, we reviewed the allegations and materials you submitted and have conducted interviews with individuals involved with the processes and products referenced in your allegation. The individuals interviewed include members of the Assessment Management Teams (AMT) for the REAs, all of the REA Project Managers, members of the BLM National Operations Center (NOC) and our Washington Office (WO) staff, as well as the authors of the United States Geological Survey (USGS) report cited in the allegation, and others. We also reviewed pertinent documents produced by the AMT, NOC, and WO staffs.

Based on this review, we have determined that no misconduct has occurred, and there has been no loss of integrity during any of the REA processes referred to in the allegation. Therefore, as specified in detail below, your allegations are determined to have no merit.

First Allegation:

"BLM committed scientific and scholarly misconduct by intentionally circumventing policy that ensures the scientific integrity of the REAs, hence potentially influencing the resultant information upon which future resource management decisions will be based", specifically, livestock grazing as a change agent was intentionally excluded from the first six REAs as a result of interference in the scientific process by WO and other staff (§3.5 M (a) intentional circumventing policy that ensures the integrity of science and scholarship, and (b) actions that compromise scientific and scholarly integrity).

Finding: Allegation is without merit.

Discussion:

The BLM conducted these REAs in order to further inform its land management decision-making based on an ecoregional scale regarding certain change agents. The BLM required each of the REAs to address the four change agents of climate change, wildland fire, invasive species, and urban and industrial development, *and, in addition,* each AMT could also identify other change agencies, such as grazing, if they found it feasible.

All six AMTs considered adding grazing as a change agent for their respective REAs early in the process. During several of the REA workshops, contractors, some partners, and BLM personnel expressed the belief that grazing is a significant change agent at the ecoregional-level and that it should be included in the REAs. There was considerable and sometimes heated discussion about the topic. Initially, these discussions focused more on why grazing should be considered a change agent and less on how to evaluate grazing as a change agent. Several management questions were proposed, revised, included, or deferred during the REA preparation process.

While there was general agreement that historic grazing practices, and current practices in some cases, have been a significant change agent, there was concern among the AMTs both about how to represent grazing effects at the ecoregional-level, as well as how to ensure consistency among the REAs in the incorporation of grazing as a change agent. Unable to come to resolution of this issue, the AMTs sought guidance from the WO. The WO began discussion, but could not provide a final answer and direction on how to solve the data problems using only available data (no new data can be collected during a REA). As a result, the AMTs elected not to include grazing as a change agent in this set of REAs.

For example, in the final product for phase 1 step 3 of the Central Basin and Range REA the following statement appears:

> "USGS commented that grazing should be included as a [Change Agent]. This issue was discussed thoroughly in AMT1 and 2 workshops and it was decided to defer inclusion because there is no known data to adequately represent grazing on the landscape despite its importance. Because grazing is a fairly ubiquitous use, the REA would not likely benefit from spatial analyses of grazing and it is suggested that this be a special assessment outside of the REA."

Grazing as a change agent was, therefore, excluded from this set of REAs, but for the technical reasons discussed below (i.e., lack of an adequate means of including it), rather than by specific policy direction or any malfeasance. Neither the WO nor the Project Managers issued any direction to exclude grazing. Instead, while its importance was recognized, the lack of resolution of these technical aspects of information regarding grazing impacts led to the issue being tabled.

Second Allegation:

> *"The zero tolerance of loss of scientific integrity has been violated, in this case through the decision making to exclude grazing from consideration after its recommendation by contracted scientists", specifically, the withholding of GIS grazing effects data layers from*

the contractors negated the validity of the REAs (§ 3.4 The Department... will not tolerate loss of integrity in the performance of scientific and scholarly activities or in the application of science and scholarship in decision making...).

Finding: Allegation is without merit.

Discussion:

The BLM intends its REAs to be based on existing and readily available geospatial datasets; they are not to involve data collection or transformation and the consequent burden on Field Offices. The 2010 Statement of Work that applies to the initial round of REAs makes this clear: "...the gathering, synthesizing, and interpreting currently available information from literature or using existing data from inventories and monitoring." There was an expectation that some data might not be available, but that readily derived or modeled information might be used. In considering modeling options, it was determined that existing data sources were too fragmentary for valid and robust regional modeling. Note that these data sources frequently are adequate to meet the needs of managers at a local scale, but not necessarily at a regional scale. Note also that the fragmentary nature of the data sources applies to both the incomplete data coverage across the landscape as well as the inconsistent availability of the datasets themselves.

The challenge facing the BLM and our contractors is that consistent, comparable, reliable data at the scale necessary for ecoregional-level assessment is nonexistent. The AMTs made it clear that if a contractor could find and use consistent reliable data at an appropriate scale and could incorporate the data into the REAs, the information would be helpful in the BLM's eventual use of the assessments. However, if contractors could not find sufficient data for the analysis, the REA would identify this as a data gap for later consideration –whether through future REAs or another assessment instrument.

The best data source the BLM has that shows livestock grazing effects on resources are BLM's Land Health Evaluations (LHEs) (see BLM Manual H-4180-1 Rangeland Health Standards for more information). The BLM conducts LHEs on individual grazing allotments typically at the time when the grazing permit is up for renewal (usually every 10 years). Allotments are evaluated against BLM Land Health Standards (LHS) and are rated as meeting or not meeting standards. If an allotment is identified as not meeting standards, a causal determination is made (e.g. current livestock grazing or other factors). Allotments not achieving land health standards because of current livestock grazing are lands where resources (water quality, wildlife habitat, upland soils, riparian areas, and the ecological processes of energy flow, nutrient cycling, and the hydrologic cycle) have been negatively affected.

However, LHEs were deemed not suitable for use in the REAs for several reasons. The most important is the lack of complete coverage of all the BLM-administered lands. Other reasons include the fact that LHEs are not yet in a digital database to facilitate analysis, nor was there a standardized BLM geospatial layer of LHEs. The LHE data are not in a geospatial format. The LHSs can vary by state, and over the years different methodologies have been used to conduct LHEs, thus making it difficult to merge data in a consistent format at the ecoregional-level. One

allotment can have differing compliance with LHS; sections of an allotment can be achieving the LHS while other sections may not be.

Aside from the physical and analytical limits of the LHE data, there are other difficulties in assessing the effects of livestock grazing on vegetation in REAs including: the challenges of distinguishing grazing effects by different herbivores, or contemporary from historic use; incorporating the effects from multiple spatial scales where different evaluation methodologies have been employed; and the complete lack of data from non-Federal lands. Other agencies conducting regional-scale assessments have faced similar difficulties in attempting to correlate small-scale and large-scale effects (e.g., the Interior Columbia Basin Ecosystem Management Project, see "An assessment of ecosystem components in the interior Columbia Basin and portions of the Klamath and Great Basins", Thomas M. Quigley, Sylvia J. Arbelbide, technical editors, 1997, U.S. Dept. of Agriculture, Forest Service, Pacific Northwest Research Station, General technical report-405).

Notwithstanding the challenges discussed above, several of the REA AMTs decided to continue the dialogue on grazing as a change agent through the first several workshops to see if any data or modeling approaches to assessing grazing effects could be identified. To date, results indicate a lack of sufficient existing data as well as a lack of modeling approaches to address the issue.

While there is no Land Health Database maintained by the BLM, there is a 2008 Land Health spreadsheet that was compiled by the WO and contains tabular data on LHS that have not been achieved, listed by authorization within allotment, and the major causal factors associated with the non-achieved determinations. The 2008 Land Health spreadsheet has limits though; it represents an incomplete land health dataset and consists of tabular, not spatial data. Also, the NOC staff working on REAs did not become aware of this 2008 Land Health spreadsheet until October 2011, after receiving the completed USGS report "Range-wide Assessment of Livestock Grazing Across the Sagebrush Biome", Veblen, K., D. Pyke, C. Aldridge, M. Casazza, T. Assal, and M. Farinha, 2011, USGS Open File Report 2011-1263 (Veblen, et al.) http://pubs.usgs.gov/of/2011/1263/pdf/ofr20111263.pdf.

Objectives for Veblen, et al., were to "Investigate whether range-wide datasets could be used in conjunction with remotely sensed imagery to identify across broad scales (a) allotments potentially not meeting LHS and (b) allotments in which unmet standards might be attributable to livestock grazing..." To do this, they followed common model development procedures; they collected existing BLM data, divided it into two sets, used one part to set parameters for a predictive model of lands in the BLM-defined category "not met due to livestock," and then used the remaining data to see how well their model performed. Model accuracies were low (example 62 percent on the "Met" and "Not Met" model, pg. 25) and the error was probably even greater since there was no accuracy assessment on the actual monitoring data that BLM collected.

From the conclusion of Veblen, et al:

> "Prior to our work, although local-level monitoring data existed, the data had not yet been critically evaluated for suitability in range-wide analyses, nor had there been any attempts to use it for such analyses. In general, we found that more consistent data collection

> methodologies across local-level (field) offices might improve the suitability of data for broad-scale analyses. We also did not find any local-level (on-the-ground) monitoring data (Actual Use, Utilization, Vegetation Trend) that had been collected consistently enough over time and space for range-wide, or even state-wide, analyses."

The only BLM data sets USGS identified and refined in this study that could be considered "range-wide" were the BLM's allotment dataset, the BLM's billed use, and the BLM's permitted use. Data sets on BLM's actual use, and BLM's Land Health, cannot be considered "range-wide" data sets because actual use data and Land Health data are spatially incomplete. Veblen, et al., attempted to take LHE data that were available in the sagebrush biome and create a geospatial layer. The report acknowledges that within the sagebrush biome only 57 percent of allotments have a LHE. Since the LHE data Veblen, et al., used were "incomplete," the spatial data layers are incomplete. When LHE data are merged using multiple LHS and methodologies, errors inherent in the various methods are amalgamated into an unknown total amount of error that affects accuracy of livestock grazing effects in an unknown amount. The Veblen, et al., LHE data suffer from many errors that negatively affect the accuracy of livestock grazing effects.

Veblen, et al., includes several substantial caveats in terms of applications and limitations that set the sidebars for its interpretation. It is not a comprehensive report that presents a seamless coverage of the effects of livestock across a landscape. One of the criteria for all REAs is reliance on seamless data sets. This report describes a technique that does not meet this criterion.

Third Allegation:

> *"The actions clearly compromise the scientific and scholarly integrity of the REAs", specifically, exclusion of livestock grazing as a change agent will slant the resultant findings and interpretations and seriously compromise the credibility of the REAs (§ 3.4.C Document the scientific and scholarly findings considered in decision making and ensure public access to that information and supporting data through established Departmental and Bureau procedures...).*

Finding: Allegation is without merit.

Discussion:

The REAs are not intended to be comprehensive. Further, even for those change agents that remain the focus of individual REAs, the REA products include results consistent with the limitations of the data on which they are based. Development of each of the REAs has fostered learning opportunities regarding the need for policy and guidance to address appropriate approaches to information gaps where they arise. By design, only existing data is to be used for the REA effort, but follow-up assessments, which may be different in scope, may take a different approach, on the basis of the assessment of future management needs. The BLM recognizes that not assessing grazing as a specific change agent is a substantial limitation in preparing regional/landscape adaptive management strategies for the public lands, particularly in view of drought and climate change effects. However, the BLM also recognizes that, even if only the

four change agents identified for focus in these REAs have been addressed, and a particular cause has not been validated, this process has resulted in the geospatial documentation of adverse conditions on the landscape for corrective management.

As you know, the six REAs to which the allegation refers have been completed, and they did not include grazing, for the reasons reviewed above. At this time, the BLM is still investigating the best approach to considering the effects of grazing in the REA context, including whether or not the REA context is the appropriate process to consider the issue, or whether a more localized approach would be more fruitful.

In conclusion, we have determined that your allegations are without merit under 305 DM 3. Accordingly, this case is considered closed. We appreciate your cooperation in this important process.

Sincerely,

Louis C. Brueggeman
Scientific Integrity Officer

cc: Suzette Kimball, DOI SIO
Heidi Hadley, BLM Science Advisor
Janet Lin, BLM Chief of Staff
Roxanne Falise, NOC DRS