Grazing Permit Categorical Exclusion Analysis Report

This report supplements the previous report on this subject and includes additional information as well as the information reported previously

Subject: Analysis of a new proposed categorical exclusion for issuance of grazing permits and leases authorized by the Bureau of Land Management

Date: 03/22/2007

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Introduction

The purpose of this document is to explain the rationale used by the Bureau of Land Management (BLM) to establish a categorical exclusion (CX) as defined by the National Environmental Policy Act (NEPA) for issuing grazing permits and leases (permits) that meet certain criteria. The proposal covers the following activities:

Proposed 516 DM citation 11.9(D)(11):

Issuance of livestock grazing permits/leases where: a) the new grazing permit/lease is consistent with the use specified on the previous permit/lease, such that 1) the same kind of livestock is grazed, 2)this does not exceed the active use previously authorized, and 3) grazing does not occur more than14 days earlier or later than as specified on the previous permit/lease; and b) the grazing allotment(s) has been assessed and evaluated and the Responsible Official has documented in a determination that the allotment(s) is 1) meeting land health standards, or 2) not meeting standards due to factors that do not include existing livestock grazing.

It should be noted that the language in the proposed CX was changed following public comment and consultation with CEQ to clarify that the CX may only be used if the grazing permit being considered is consistent with (or does not exceed, as to active use) the grazing use previously

authorized in the permit it would replace. The reference to grazing not occurring more than 14 days earlier or later than the grazing use specified on the previous permit/lease, only allows for minor changes in the grazing season that would not result in changes in the overall use or anticipated impacts. Based on professional judgment, including extensive experience with livestock grazing and the analysis of impacts associated with grazing in numerous environmental assessments, BLM staff expects that minor changes within 14 days of the established season of use would not result in changes to impacts or identified effects. To qualify for this categorical exclusion any increase in the total number of days grazed would have to involve a corresponding decrease in the number of livestock. Expanding the season of use to allow grazing to occur for more total days while maintaining the same number of livestock, would result in an increase in the active use resulting in the proposed permit being ineligible for the use of this CX.

When BLM began its consideration of whether a CX could be established addressing the issuance of grazing permits, BLM reviewed records on the results of NEPA analysis for 12,724 grazing permits issued and determined that only 26 (0.2%) resulted in the preparation of an EIS and did not meet the criteria for a "Finding of No Significant Impact" (FONSI) as defined by NEPA. (See 71 Fed. Reg. 4159, January 26, 2006.) Twelve of these permits were issued in Nevada, and required an EIS to analyze effects on special status species –one of the extraordinary circumstances in DM 2 Appendix 2. The other 14 grazing permits were issued in Colorado, and were based on an EIS prepared in support of a Land Use Plan Amendment for a National Conservation Area. Following comments on this proposal and consultation with CEQ, BLM refined its review of the NEPA records, and collected additional information to be used in making an informed decision relative to the proposed grazing permit CX. This report provides an explanation of the rationale for the establishment of the grazing permit CX, including what information and data was used, and how that information and data was collected.

On September 19, 2006, the Council on Environmental Quality published in the Federal Register proposed guidance for Federal agencies on the establishment and use of categorical exclusions (71 FR 54816). The CEQ states in this proposed guidance, "the purpose of a CX is to eliminate the need for unnecessary paperwork and effort under the National Environmental Policy Act (NEPA) for categories of actions that normally do not warrant preparation of an environmental impact statement (EIS) or environmental assessment (EA)," because they normally do not result in significant effects on the quality of the human environment. The BLM is establishing this CX to meet this purpose, on the basis of its findings that the issuance of grazing permits, when certain criteria are met, does not result in significant effects on the environment.

Part III of the CEQ's proposed guidance addresses how agencies are to define and substantiate a new categorical exclusion. The proposed guidance states further: "The text of a proposed categorical exclusion should clearly define the category of actions as well as any physical or environmental factors that would constrain its use." The grazing permit CX conforms to CEQ guidance part III A, as it includes very specific criteria for its use. In particular, the grazing permit CX may only be used in situations where the grazing permit/lease to be issued has the same basic terms as the previous grazing permit/lease for the particular allotment(s). In addition, the BLM has introduced an additional requirement, that the allotment(s) in question must have been identified as meeting the land health standards, or if not meeting the standards, this failure to meet such standards is due to factors that do not include existing livestock grazing.

In the course of responding to comments received from the public with respect to the proposed CX, and in light of the publication of CEQ's proposed guidance, BLM reviewed the data it had collected to substantiate establishing the CX, which was posted in an Analysis Report on the web at http://www.doi.gov/oepc/cx_analysis.html and http://www.blm.gov/planning/news.html, and is attached here as an Appendix. Based on this review, the BLM determined that that data should be refined and supplemented, in order to more clearly demonstrate the basis for BLM's determination that, in fact, the issuance of grazing permits/leases meeting certain criteria does not result in significant impacts to the environment. That is, an interdisciplinary team of subject matter experts in the BLM's Washington Office (WO) determined that the best way to analyze and present the data on the issuance of grazing permits would be to conduct a random sampling process. However, the 12,724 figure in the Analysis Report for grazing permits issued, which had been gathered based on records from BLM State and Field Offices did not provide a basis from which to draw a random sample of records, because individual offices would not have been able to select individual records for review. The Team determined that the best source of grazing permit information from which a random sample could be drawn was the BLM Rangeland Administration System (RAS), located on a central server at the Denver Federal Center in Denver, Colorado. The RAS contains grazing permit records spanning the period from 1999 through 2004. For this period, there are 9,226 RAS records of grazing permits issued that could have contained NEPA related information. Because of differences in the way permits are tracked in the State and Field Offices, and in the RAS, the RAS figure, 9,226 is smaller than the number originally gathered from the State and Field Offices.[1]

By using the records from the centralized RAS, a BLM statistician specializing in the biophysical applied sciences (biometrician) was able to draw a sample from the grazing permits/leases issued parent population containing 9,226 RAS records to create a stratified random sample of grazing permits/leases issued by state administrative area. Through this review, as detailed below, BLM was able to determine that approximately 80% of the time, grazing permits/leases are issued on the basis of EAs which result in a (FONSI). These predictions were confirmed to have been accurate on the basis of evaluation of the actual impacts of the authorized grazing. The remaining 20% of grazing permits/leases issued were issued on the basis of already-existing EISs. Only rarely, that is, in 6 instances out of the 94 permits in the sample issued on the basis of already existing EISs, or in at most 3% (weighted, as based on the state-stratified random sample) of all permits issued during the relevant time period, were significant effects on the human environment either expected as identified in the existing EIS upon whose basis the permits were issued, or was the issuance of grazing permits/leases observed (during the Land Health Assessment process) to result in significant effects on the human environment, either individually or cumulatively. For the other permits/leases issued on the basis of an already existing EIS, there was no indication that any significant impacts had been anticipated prior to issuance of the permit/lease, or observed subsequent to its use.

This report and its appendix describes the process and methods used both to construct and manage the new data call initiated in order to refine and supplement the data originally

[1] For instance, in order to be counted in the RAS, a grazing permit must be issued, as well as signed by the permittee, and returned to the issuing BLM office. This procedural step is not necessarily required for records kept in State and Field Offices.

presented, and to compile and analyze the data received. The report begins with a discussion of this review of the environmental analyses completed pursuant to NEPA, and explicates the basis upon which BLM believes establishment of the grazing permit/lease CX is warranted. The report then presents an explanation of the Land Health Assessment process, and its role in rangeland management, in order to clarify this particular criterion limiting use of the grazing permit/lease CX. The discussion concludes with a recommended action for the proposed grazing permit/lease CX (516 DM citation 11.9(D)(11)).

Data Collected on Grazing Permits Issued and NEPA Compliance

The RAS database contains information on all of the BLM grazing permits issued. BLM analyzed a State-stratified random sample of the BLM's RAS database of grazing permits. Therefore, statements based on these data are understood to represent the range and scope of grazing permits issued by the BLM. First, instances where it had been noted that the permit/lease had been issued on the basis of Congressional direction that allowed a permit to be issued as long as NEPA compliance was completed by 2009 (see Pub. L. 108-108, section 325, 117 Stat. 1307-1308 (2003)) were removed from the data from which the sample was to be drawn, as such records would not provide answers to the question regarding whether the issuance of grazing permits resulted in significant effects. The sample drawn by the BLM biometrician from the resulting population of 9,226 records from the RAS database, with these records removed, consisted of approximately 521 records. This number included an excess, in order to take into account the fact that not all records of permits/leases issued noted the fact that they had been issued on the basis of this Congressional authorization. Therefore, for each of these records, BLM reviewed the NEPA analyses conducted in support of the issuance of the grazing permit and found that 63 of these grazing permits were issued using Congressional direction, leaving 458 with records detailing the environmental documentation completed pursuant to NEPA. This sample of records is designed to serve as factual evidence to answer the key questions regarding the environmental effects of the issuance of grazing permits, and inferred results for the entire RAS database have been calculated based on this sample of 458 records. Please see Appendix for an explanation of the way in which the sample size was developed, as well as the method of establishing the State-stratified random sample, and further details regarding data collection, cleaning and validation.

The data was reviewed and analyzed to answer the following principle question: "Does issuance of grazing permits/leases result in significant impacts?" Consideration of this question involved examining the answers to several related questions:

What type of NEPA documents were used for the grazing permits issued?

* Did issuance of the grazing permit result in any significant impacts that were not identified or predicted?
* How were the results validated?
* Was an existing EIS used because the analysis had already been done in association with a land use plan such as an RMP?
* Was an existing EIS used because the analysis had already been done in an EIS that was specific to grazing?

* Was this EIS where the grazing impacts were analyzed used because you anticipated the grazing impacts would be significant?
* Did the EIS used to analyze the impacts of grazing specifically identify any of the impacts as significant and/or do you have any other information that would indicate the impacts of grazing were significant?

For the overwhelming majority of the grazing permits/leases issued, grazing is not a new activity and grazing has occurred on that same location for many years. Therefore the NEPA analysis relies more on actual site monitoring, evaluation and experience with the existing grazing management than is possible with many proposed actions which rely on predicting potential impacts on a new site. The results of the data call, and review of the NEPA analyses revealed that 365 of the 458 in the sample, or approximately 80% of grazing permits/leases in general, are issued on the basis of an EA that results in a FONSI. Evaluation of the actual results of permitted grazing bear out these predictions. Evaluations conducted on the basis of the professional judgment and/or personal observation of BLM range specialists, field data collection through a monitoring program, and evaluation of information received through these and/or other methods, or a combination thereof (66% of the time a combination of methods was used), reveal that grazing permits issued on the basis of an EA/FONSI do not, in fact, result in any significant impacts. The RAS-based data call revealed that only 18 of the sample or 5% of all of the permits/leases issued (regardless of type of NEPA documentation used) resulted in impacts that were not identified/analyzed or predicted during the NEPA analysis, and none of those unanticipated impacts were considered to be significant. This experience with the analysis of grazing impacts further indicates that issuing grazing permits/leases rarely results in significant impacts. This result is consistent with the results of the earlier data call, published in January 2006, which indicated that, at least from a predictive standpoint, only 0.2% of the permits/leases involved the initiation of an EIS to analyze the impacts of grazing.

Review of the RAS based data also revealed that approximately 20% of the time, grazing permits/leases are issued on the basis of existing EISs –either those that were prepared in association with development of a Resource Management Plan (RMP), or those specifically analyzing grazing. In none of these cases were existing EISs used to support the issuance of grazing permits/leases because significant impacts were anticipated. Rather, existing EISs were used in accordance with BLM policy, as expressed in IM 99-039, which consists of a recommendation that when there is an existing NEPA document available sufficient to support a decision associated with a grazing permit/lease being considered, the existing NEPA document should be used. Applicable BLM policy further stated that a new NEPA document should be initiated when a determination could not be made that an existing NEPA document was sufficient to support the grazing decision. Therefore, in several cases, grazing permits/leases were issued using a BLM "Documentation of NEPA Adequacy" specifically referring to the completed EIS.

Of the 94 grazing permits/leases in the sample and issued on the basis of an existing EIS, 81 (approximately 86%) of these were EISs completed in association with an RMP. The other 13 (approximately 14%) of EISs used to support the issuance of grazing permits/leases were EISs prepared specifically to analyze the effects of grazing. With respect to these latter cases, consistent with BLM policy as expressed in IM 99-039, the existing grazing EISs were used

because they were available, not because significant impacts were anticipated with respect to any particular grazing permit/lease.

In response to the last in the series of questions, "Did the EIS used to analyze the impacts of grazing specifically identify any of the impacts as significant and/or do you have any other information that would indicate the impacts of grazing were significant," analysis of the refined data sample revealed that two EIS used as the basis for issuance of 5 grazing permits/leases specifically identified significant impacts. (That is, even though the existing EISs were used because they were available, they did identify and analyze significant impacts.) In addition, the relevant Field Office responded on the basis of the land health assessment process, described below, that significant impacts had been identified as a potential result related to the issuance of one other grazing permit/lease. In that situation the field office modified the terms of the permit to mitigate the potential impacts and avoid the potential significant impacts from occurring. BLM takes these instances to be indicative that significant impacts can be documented as potentially involving at most 3% (weighted, as based on the state-stratified random sample) of grazing permits issued. While the significant impacts identified in these two EISs are not necessarily connected to the 5 grazing permits identified as issued on the basis of these EISs, as significant impacts were discussed, the BLM believes they may have applied to these allotments, or at least should be considered as applicable to these allotments.

Despite the data showing that the majority of grazing permits issued do not result in significant effects to the quality of the human environment, either individually or cumulatively, BLM is incorporating specific criteria for the use of the grazing permit CX, see CEQ proposed guidance, part III. A and C (71 FR 54816). These criteria specify that the use must remain consistent with prior use, and that the grazing allotment(s) has been assessed and evaluated and the authorized officer documents in a determination that the allotment(s) is either meeting land health standards, or not meeting standards due to factors that do not include existing livestock grazing. Please see description of the Land Health Assessment process below (see page 7).

Extraordinary Circumstances Review

Under part III.A of CEQ's proposed guidance, an agency must provide for extraordinary circumstances review in the use of a CX. Therefore, the BLM must apply the Department of the Interior (DOI) extraordinary circumstance review to all actions considered for NEPA review under the grazing permit CX. This extraordinary circumstance review will identify any proposed grazing activities that may constitute an atypical situation or take place in an atypical environmental setting. For example, the presence of critical or unique resources would be identified during the review of the DOI extraordinary circumstances list. In cases where grazing might result in the applicability of one or more of the extraordinary circumstances, the grazing permit CX could not be used.

Summary of Data Call Findings

The purpose of the grazing permit data call and subsequent analyses was to determine whether the issuance of a grazing permit results in significant individual or cumulative adverse impacts as determined through NEPA. Although approximately 20% of the sampled grazing permits were

issued on the basis of completed EISs, those EISs were used in accordance with BLM policy because they represented adequate NEPA analysis and in none of those cases was an EIS used because significant impacts were anticipated. The BLM is able to document impacts as significant in at most 3% (weighted, as based on this state-stratified random sample) of the grazing permits issued. Approximately 5% of the grazing permits resulted in unanticipated impacts but none of the grazing permits within the sample resulted in unanticipated significant individual or cumulative effects. These predictions were confirmed on the basis of actual permitted grazing by the personnel responsible for issuing these grazing permits and leases. Therefore, based on the evidence, the answer to the principle question below is "yes."

"Do the overwhelming majority of grazing permits and leases issued result in no significant individual or cumulative impacts?"

The factual data generated by the 2006 data call supports the proposed grazing permit CX. Once a grazing permit is issued there is guidance in place that directs how that grazing permit is to be administered.

Existing Guidance on Grazing Administration

BLM rangeland management specialists follow national guidance on grazing management as directed in the grazing regulations at 43 CFR 4100 and in handbooks H-4110-1 (Qualifications and Preference), H-4120-1 (Grazing Management), and H-4130-1 (Authorizing Grazing Use). At the national level, the regulations for authorizing grazing use, including the provisions for mandatory and other terms and conditions that are applied to a grazing permit, can be found at 43 CFR 4130.3. A list of prohibited acts is found in the regulations at 43 CFR 4140.1, and national level fallback standards and guidelines are found at 43 CFR 4180.2.

In addition to the nationally-applicable authorities and guidelines, BLM State Directors, in consultation with Resource Advisory Councils (where they exist), have developed statewide or local standards and guidelines to minimize environmental impacts based on statewide or local geographic needs. During the land use planning process the BLM often identifies additional permit stipulations, with which permittees must comply, with respect to grazing permits administered under the plan. In areas where the BLM has identified a need for a management emphasis on grazing management, the BLM completes an Allotment Management Plan (AMP) which will further describe the limitations on grazing use within a specific area or allotment. An AMP will contain information on resource objectives, descriptions of grazing practices, use levels, timing and seasons of use, range improvement projects, monitoring and evaluation. (See handbook H-4120-1). All of this guidance is used to promote better grazing management and reduce potential impacts to other resources.

Even though the data supports the proposed grazing permit CX and there is sufficient guidance available on how to manage grazing, as mentioned above, in relation to the analysis of the NEPA compliance documentation, BLM has proposed an additional restriction which would require that the CX may only be used if the grazing allotment has been assessed and evaluated and the Responsible Official has documented in a determination that the allotment(s) is either meeting

land health standards, or if not meeting standards this failure is due to factors that do not include existing livestock grazing.

The Land Health Standard Assessment and Evaluation Process

Definitions

The following definitions are from the BLM's Rangeland Health Standards Handbook (H-4180-1) dated January 19, 2001.

Allotment: An area of land designated and managed for livestock grazing (43 CFR 4100.0-5).

Assessment: The estimation or judgment of the status of ecosystem structures, functions, or processes, within a specified geographic area (preferably a watershed or a group of contiguous watersheds) at a specific time. An assessment is conducted by gathering, synthesizing, and interpreting information from observations or data from inventories and monitoring. An assessment characterizes the status of resource conditions so that the status can be evaluated (see definition of evaluation) relative to land health standards. An assessment sets the stage for an evaluation. An assessment is not a decision.

Determination: Document recording the authorized officer's finding that existing grazing management practices or levels of grazing use on public lands grazing either are or are not significant factors in failing to achieve the standards and conform with the guidelines within a specified geographic area (preferably watershed or a group of contiguous watersheds).

Evaluation: An evaluation is conducted to arrive at two outcomes. First, an evaluation conducts an analysis and interpretation of the findings resulting from the assessment, relative to land health standards, to evaluate the degree of achievement of land health standards. Second, an evaluation conducts an analysis and interpretation of information—be it observations or data from inventories and monitoring—on the causal factors for not achieving a land health standard. An evaluation of the causal factors provides the foundation for a determination (see definition for determination).

Land Health: Degree to which the integrity of the soil and the ecological processes of ecosystems are sustained.

Standard: Standards of land health are expressions of levels of physical and biological condition or degree of function required for healthy lands and sustainable uses, and define minimum resource conditions that must be achieved and maintained.

The Process

The BLM administers approximately 18,000 permits on 22,000 allotments, and issues an average of approximately 2,300 grazing permits and leases annually (derived from Rangeland Administration System [RAS] records). The BLM assessed "land health standards" and completed evaluations and issued determinations on over 9,260 allotments between 1998 and

2004. The BLM's Annual Range Inventory, Monitoring, and Evaluation Report during that period tells us that 79 percent of these allotments were found through the assessment and evaluation process to be meeting land health standards, Table 2. Approximately 15 percent (1,422) of the allotments with permitted grazing did not meet standards due to livestock grazing. In addition, approximately 6 percent (513) of the allotments did not meet land health standards because of factors other than existing livestock grazing.

Table 2: Allotment Standards Reviews and Results for Issued Permits

Year	Allotments evaluated and determination documented	Allotments meeting all land health standards	Allotments not meeting standards because of factors other than existing livestock grazing	Allotments not meeting standards because of existing livestock grazing
Prior to 2001	3686	3557	199	499
2001	1249	909	101	239
2002	1443	979	331	133
2003	1393	776	189	428
2004	1489	1104	262	123
Total	9,260	7325	513*	1422

* In 2004, Montana decreased the number of allotments reported in this category by 569; therefore, this column is not additive.

The BLM's Rangeland Health Standards Handbook (H-4180-1) describes the process used to assess and evaluate whether land health standards are being met. The resulting report is not a decision document. If the evaluation finding indicates that land health standards are not achieved, a "determination" is made identifying causal factor(s) for not achieving land health standards. The process leading to a determination document can be summarized as follows. The BLM:

- selects area to be evaluated (allotment or group of allotments);
- selects indicators to be evaluated;
- reviews existing data and the information regarding current condition in relation to applicable land health standards;
- supplements "gaps" in information using assessments and additional monitoring; and
- documents whether standards are achieved or not achieved.
- If the allotment(s) area is not meeting standards, information regarding causal factors is gathered and reviewed; and
- if determination is made that existing livestock management is cause for not meeting standards, the BLM develops and proposes one or more action alternatives, which are analyzed through an appropriate NEPA process.

The determination document contains a statement of achievement or non-achievement for each of the land health standards, a list of causal factors for not achieving standards (when appropriate), a statement of conformance or non-conformance with livestock grazing guidelines, and the signature of the authorized officer with the date of signing. Information used to determine the causal factors includes, as available: assessments, monitoring and inventory data, information provided by other agencies and public land users, qualitative information, and professional knowledge (Manual Handbook H 4180-1).

Only if the land health standards have been assessed and the associated allotment were found to be meeting the standards or if not meeting one of the standards, the failure is due to factors that do not include the existing livestock grazing, would the proposed CX be considered to be potentially the appropriate NEPA documentation.

Once a determination is made and appropriate NEPA documentation is completed, the BLM issues a decision. If the management decision supports the issuance of a grazing permit/lease, the BLM issues the permit/lease and monitors whether the grazing activities permitted are maintaining or making progress toward achieving target land health standards. If during the term of that permit/lease monitoring data indicates a change in the permit/lease is justified, the existing permit/lease is cancelled and following adequate NEPA analysis a new permit/lease with changes in the terms and conditions is issued in compliance with BLM regulations in 43 CFR 4160 (Administrative Remedies).

Logic for Issuance of Grazing Permits/Leases through a Proposed CX

When considering issuance of a grazing permit/lease, The BLM looks at all available information concerning the current conditions on the allotment(s) included in the permit/lease. This would include applicable resource inventories, applicable monitoring data, and if completed, the land health assessment. That information is used in preparation of the NEPA document(s) considered appropriate for identifying and analyzing the impacts of grazing. Following preparation of the NEPA document(s) a grazing decision which contains a discussion of the proposed grazing permit/lease and identifies the BLM's proposed action relative to that permit/lease is issued. Specific guidance for these processes is contained in BLM manuals, handbooks and Instruction Memorandums (IMs). The land health assessments are the BLM’s most recent and most applicable information relative to the current status of ecological conditions and therefore are very useful when considering issuance of a grazing permit/lease.

The Grazing regulations in 43 Code of Federal Regulations 4180.2 and BLM policy in Manual Handbook 4180-1 provide direction for conducting assessments and evaluations of land health to determine condition status and, when standards are not met, identifying the significant cause(s) for non-achievement. The BLM is required to take corrective action when it is determined that existing livestock management is a causal factor for not meeting land health standards (43 CFR 4180.2, Manual Handbook 4180-1, Washington Office Instruction Memorandum (IM) 2002-124). BLM policy requires that adequate site-specific analysis of livestock grazing be performed each time a grazing permit/lease expires (Washington Office IM 99-039; IM 2000-022).

For all BLM actions the potential for a proposed action to have a significant impact is always tested by examining the DOI list of 12 "extraordinary circumstances" (516 DM 2, Appendix 2) regardless of the NEPA analysis format ultimately chosen. If any of the "extraordinary circumstances" are present, the CX analysis process may not be used. In the absence of "extraordinary circumstances," and in the absence of any other evidence that a proposed action may result in either an individual or cumulative significant effect on the environment, use of a CX, if available to support the proposed action, may be warranted. Based on the evidence of the data and analysis presented in this report, BLM has concluded that the established permitting review process is sufficient to prevent significant individual and cumulative impacts that would warrant a higher level NEPA review. BLM is confident that when such higher level review is warranted, the permitting review process identifies this need so that the appropriate review takes place.

Conclusion

Of the grazing permits issued between 1999 and 2004, 80% involved the use of an EA which resulted in a "Finding of No Significant Impact" (FONSI). Although approximately 20% of the grazing permits issued used an existing EIS for the analysis of grazing impacts the BLM is able to document significant impacts for at most 3% (weighted, as based on the state-stratified random sample) of the grazing permits issued. That is, out of 94 permits in the sample issued on the basis of existing EISs, potential significant impacts were identified within the EIS for 5 of these grazing permits, and potential significant impacts were identified during the land health assessment process for one other grazing permit. In most locations where the CX would be considered, grazing is not a new activity and the grazing management has been refined and new terms and conditions designed to reduce potential impacts have been implemented over time. Therefore the NEPA analysis can rely more on past monitoring, evaluation and experience with the existing grazing management than is possible with most proposed actions which rely on predicting potential impacts. Based on the data call 5% of the permits issued resulted in impacts that were not identified or predicted during the NEPA analysis, however none of those unanticipated impacts were considered to be significant.

The BLM's established permitting procedures are sufficient to detect potentially significant individual and cumulative impacts and those grazing permits would be properly directed to an appropriate level of NEPA review. The assessment and evaluation procedures for this determination are prescribed in regulation and policy. A land health standards assessment includes the review of all relevant monitoring and inventory data and information. When necessary the existing information is supplemented with additional information collected specifically to assist with the land health standards assessment. When available the land health standards assessment is the most relevant and most recent information on the current status of the ecological processes on the allotment. Therefore, the results of those assessments represent the best information available to help the BLM evaluate current conditions and identify potential grazing related impacts to soil, water, and native plants and animals. When applicable, this information is used as part of the overall NEPA analysis.

In addition, BLM has limited the use of the CX to circumstances where the kind of livestock, the total active use and the season of use are essentially the same as the use specified on the previous

permit. The time spent in preparing and reviewing an EA or EIS for issuing each and every grazing permit and lease where a land health assessment has been completed and the allotment is either meeting the rangeland health standards, or if not meeting the standards, this failure is due to factors other than current livestock grazing as identified in the proposed CX, can be more efficiently spent on allotments with more serious grazing issues. This will allow BLM to concentrate its resources and efforts on those grazing permits/leases where land health standards are not currently being met, and livestock grazing is a factor in not meeting these standards. On those grazing permits/leases a thorough analysis of grazing impacts will be needed to help evaluate the current management and identify appropriate management alternatives that can be used during the grazing permit issuance process to avoid potentially significant impacts to the basic ecological processes that support these natural ecosystems. As the BLM will be using their most recent assessment of ecological conditions based on past grazing use in the area, and administrative procedures are in place to prevent the issuance of permits/leases through a CX when significant individual and cumulative impacts are likely to occur, the proposed CX 516 DM citation 11.9(D)(11) will result in improved grazing management; therefore we recommend the CX be established.

APPENDIX 1 DATA CALL PROCESS.

Data Call Process

In response to comments received from the public, as well as consultation with CEQ on the original grazing permit/lease CX proposal (71 FR 4159, January 26, 2006), additional questions emerged concerning the impacts associated with the grazing permits issued. These questions and their answers are discussed in this revised Analysis Report, on pages 4-7. This appendix describes two data calls to the BLM's field offices during the fall of 2006 conducted to generate answers to these questions.

Over the summer of 2006, an interdisciplinary team of subject matter experts in the BLM's Washington Office (WO) first reassessed what sources of relevant information regarding the issuance of grazing permits and associated NEPA documents might be available, and determined that BLM's Rangeland Administration System (RAS) located on a central server at the Denver Federal Center in Denver, Colorado, provided the best source of grazing permit information from which a random sample could be drawn. RAS contains grazing permit records spanning the period from 1999 through 2004, which include information regarding how compliance with NEPA was documented in each case. On the basis of this information, BLM was able to conduct a more refined review of the environmental effects of the issuance of grazing permits/leases, in order to clarify why BLM believes establishment of the grazing permit/lease CX is warranted. A BLM statistician specializing in the biophysical applied sciences (biometrician) developed a sampling plan, designed to capture a random sample stratified to adjust for the fact that grazing varies state-by-state, so that states might not be inappropriately over- or under-represented. See Table 1. The criteria used to create the sampling scheme are described in the next section.

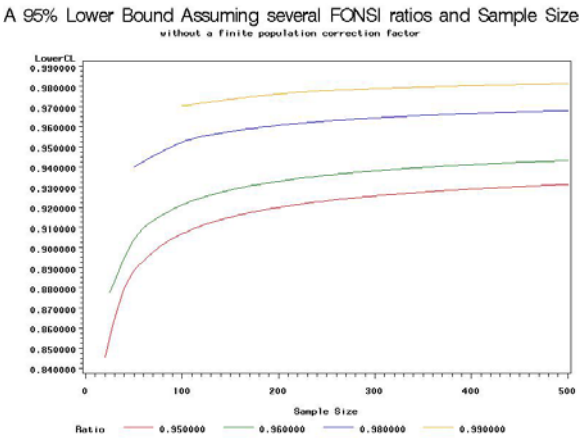
First, however, instances where it had been noted in the record that the permit/lease had been issued on the basis of Congressional direction that allowed a permit to be issued as long as

NEPA compliance was completed by 2009 (see Pub. L. 108-108, section 325, 117 Stat. 1307-1308 (2003)) were removed from the data from which the sample was to be drawn. Because NEPA would not yet have been completed in such instances, these records would not provide answers to the question whether the issuance of grazing permits resulted in significant effects. This elimination resulted in 9226 total RAS records for the relevant period, from which the state-stratified random sample would be drawn.

As described in greater detail below, the sample drawn by the BLM biometrician from the RAS database with these records removed, consisted of approximately 521 records. This number included an excess, in order to take into account the fact that not all records of permits/leases issued noted the fact that they had been issued on the basis of this Congressional authorization. Therefore, for each of these records, BLM reviewed the NEPA analyses conducted in support of the issuance of the grazing permit and found that 63 of these grazing permits were issued on the basis of Congressional direction, leaving 458 with records detailing the environmental documentation completed pursuant to NEPA. This sample of records is designed to serve as factual evidence to answer the key questions regarding the environmental effects of the issuance of grazing permits, and inferred results for the entire RAS database have been estimated based on this sample of 458 records.

Developing Sample Size

The biometrician estimated the number of grazing permits necessary for decision making by portraying a series of confidence intervals assuming several different proportions.[2] A confidence interval is an interval which has a known and controlled probability to contain the true value. In other words, if you take many samples and construct a confidence interval for each sample, then x times out of 100, that confidence interval will contain the true mean of the population. For this study, a 95% confidence level was chosen as representing a high degree of confidence in the results while accepting the 5% risk as low that the interval does not contain the true population. The width of the confidence interval depends on the estimated proportion. The width of the interval if the estimate of the proportion is .99 is narrower than the width of a .80 estimate. To investigate this relationship, several different proportions were tested based on the professional judgment of BLM staff, that for the most part, the NEPA documents prepared had not identified significant impacts, and the actual results of permitted grazing would likely bear out



[2] Technically, since the number of permits in any given analysis is random, these are ratio estimates not proportion and all analyses were conducted using ratio estimates. The number of permits in the analysis is random because as the questions yield sub-questions, the number of permits capable of yielding answers in any given instance will change. Even the major questions are based on ratio estimates, because not all of the permits issued would have a completed NEPA document due to Congressional direction that allowed the permit to be issued and the NEPA to be completed later, and therefore been capable of yielding answers to the questions. But since the point estimate for the ratio is calculated in the same manner as with proportions, and readers are generally more familiar with this term, the term proportion is used through-out the document.

these predictions. Another factor that strongly influences the width of the confidence interval is the size of the sample; therefore several proportions were tested over a range of sample sizes at the 95% confidence level (See figure). Furthermore, these confidence intervals are 'symmetrical,' meaning that there is a probability of .025 (or 2.5 chances out of 100, or 25 chances out of 1,000), that the lower interval is above the true value and the same odds that the upper interval is below the true value. Most readers are only concerned about the lower confidence interval so we can state that there is a probability of .975 (97.5 chances out of 100) that the lower bound is below the true value. It is this lower interval (or bound) that is displayed on the graph.

The curves 'flattened' out between a sample of 100 to 200, depending on the proportion. For example, with an assumed proportion of .98, the lower 95% confidence interval only varies from .952 with a sample of 100 to less than .968 with a sample of 500. Based on this information, a sample size of 400 was deemed adequate for decision making at sub-population sizes expected in the analysis. A sub-population would be a question that is only applicable to a subset of the permits surveyed. The sample size is fairly high, so that when follow-up questions were asked applicable only to some permits, there would still be sufficient number in that subset to yield results in which BLM could still have an acceptable level of confidence. Each state's administrative area (State) was considered a stratum and a 4 percent sample was selected. Anticipating that some of the permits would not have useable information due to the specific Congressional direction regarding timing of NEPA completion, this sample was increased to 5 percent. Furthermore, the samples sizes were rounded up to the next increment of 5 for most States and all States had a minimum of 25 permits sampled. The minimum of 25 was established in order to yield sufficient sample for some basic statistics at the State level if it were later deemed necessary. Table 1 summarizes the number of grazing permits issued by State, the selected sample size for each State, and the percent contribution of the available grazing permits requested of each State.

The confidence intervals were computed by the software SAS (2004) using the procedure *Surveymeans* with options for a ratio estimate and an infinite population.

Table 1 Sample Size per State

State Office	# of grazing permits in data base	# of grazing permits in sampling plan	% of total grazing permits available by state
Arizona	298	25	8.4%
California	165	25	15.2%
Colorado	765	40	5.2%
Idaho	1029	55	5.3%
Montana	2489	126	5.1%
Nevada	240	25	10.4%
New Mexico	1305	70	5.4%
Oregon	941	50	5.3%

Utah	515	30	5.8%
Wyoming	1479	75	5.1%
Total	9226	521	5.6%

Recording the Data

WO staff created a database format for the associated NEPA compliance data call and drafted data entry instructions for completion of a customized Microsoft Excel worksheet containing 20 fields. Data requested included identifying the type of NEPA procedure used, and whether actual impacts associated with the grazing permit were observed, that had not been identified or considered during the NEPA analysis. Each State listed in Table 1 was provided with its own worksheet containing a random sample of their predetermined portion of the grazing permits/leases issued from 1999 through 2004. The first five fields for each record were pre-populated by extracting the appropriate inputs from the RAS (parent) data base. The extracted information was: State, BLM Organization Code, Field Office Name, administrative grazing permit/lease number, and the permittee/leasee name. Field office staff entered the required data in their assigned Excel spreadsheet. Source materials referred to by the Field Office personnel to complete the data call included the grazing permit issued, BLM land use plans and associated NEPA documents, BLM "determination of NEPA adequacy" reports, Environmental Assessments that supported Findings of No Significant Impact, and decision documents. Every field (column) header contained coding information to avoid ambiguity when data were entered. As often as possible the data entry choices were limited to: explicit information about each permit; one of a small choice of coded options; a single metric; or a "yes", "no", or not applicable response.

First Data Call

Based on public comments and consultation with CEQ additional information was collected to help answer the following questions concerning the predictive nature of NEPA analysis and the actual impacts associated with issuing grazing permits:

- Did issuing the grazing permit result in any impacts that were not identified or predicted in any EAs that resulted in a FONSI or an EIS?

- How was the determination of whether or not there were unanticipated impacts made?

- If there were unanticipated impacts as a result of issuing the grazing permit are those impacts considered to be significant?

Only 1 of the 20 fields required a narrative response that could generate dissimilar data entries. A narrative was necessary to answer the following question:

• If there were unanticipated impacts, what were those unanticipated impacts?

There was also a column for comments at the end of the table.

Second Data Call

The second data call involved a subset of the grazing permits used in the initial data call described above. For those grazing permits where an EIS was used for the analysis of grazing impacts the team prepared a new table and asked those field offices to answer additional questions concerning why an EIS was used, and whether or not they were able to identify if any of the grazing impacts identified within the EIS were considered to be significant. The states of Wyoming and New Mexico did not have any permits that had used an EIS and therefore were not involved with this second data call. This data call was handled as described above and involved these additional key questions.

- Was an existing EIS used because the analysis had already been done in association with a land used plan such as an RMP?
- Was an existing EIS used because the analysis had already been done in an EIS that was specific to grazing?
- Was the EIS where the grazing impacts were analyzed used because you anticipated the grazing impacts would be significant?
- Did the EIS used to analyze the impacts of grazing specifically identify any of the impacts as significant?
- Do you have any other information that would indicate the impacts of grazing were significant, and identify how that determination was made?

Data Cleaning and Validation

The original uncorrected data were kept for the administrative record. These data, however, contained some errors that were corrected before the data could be analyzed. In most cases this involved making changes to the characters identified as acceptable answers in the instructions to allow the computer to analyze the results, such as changing the word “yes” to “Y”. In other cases this involved logic track questions in the data which required follow-up with the office that provided the data. For instance one office had indicated that they had used both an EA and an EIS to analyze the impacts of grazing. When the field office received the second data call they submitted the data without completing the majority of the columns in the table. When queried for complete information, the field office indicated that they had completed an EA for the grazing permit but that the EA had been tiered to an EIS for part of the analysis. Since the EA arrived at a FONSI they had not completed the second data call because the questions did not apply to their situation. As a result their permit was removed from the second data call because they did not have any permits that could supply useful information to that data call.

Scope of Representation

The RAS database contains information on all of the BLM grazing permits issued. Therefore, BLM concluded that data and analysis developed on the basis of a state-stratified random sample of the BLM's RAS database of grazing permits, and statements based on this data and analysis reasonably represent the range and scope of grazing permits issued by the BLM.

Results

The sampling plan described above, designed to generate data to serve as factual evidence to answer the key questions resulted in 521 records. The data call response rate was excellent and responses were received from each field office involved. Several permits were considered inadequate for our survey due to grazing permits issued without NEPA compliance in accordance with Congressional direction that allowed for grazing permits to be renewed as long as the NEPA compliance is completed by 2009. In other words 63 of the 521 permits in our sample did not have any useful NEPA process data and those records were eliminated from the sample which left 458 permits with useable information. Inferred results for the entire RAS database were calculated based on the 458 record samples. These results were the basis for answering the principle question, and its various sub-questions (listed above), as discussed in the Analysis Report itself (see pages 4-7).

SAS Institute Inc. 2004. SAS/STAT 9.1 User's Guide, Cary, NC: SAS Institute Inc., Cary, NC, USA.