# FINAL DECISION RECORD FOR ENVIRONMENTAL ASSESSMENT NM-060-2002-100 FOR ALLOTMENT 65069

The Roswell Field Office (RFO) issued the Proposed Decision Record (DR) for the grazing authorization on the Calumet Ranch allotment 65069 on October 2, 2003. The proposed DR erred in not specifically stating which alternative was selected. Alternative D, BLM Preferred Alternative was selected. This alternative was developed after receiving comments on the Environmental Assessment and the completion of the Overflow Wetlands ACEC Activity Plan. This alternative states:

> The revised proposed action is to issue Conejo Cattle Co. a term permit to graze cattle on Allotment 65069 to coincide with the base property lease held by the permittee. Permitted use would authorize the grazing of 438 animal units (AUs) at 34 percent public range, which corresponds to 1787 animal unit months (AUMs).[1] BLM will pursue negotiations with the owner of the base properties and permit owner to relinquish the grazing privileges connected to the 440 acres of public land within the Spring pasture to serve as a buffer area for the Overflow Wetland ACEC. If successful, BLM would be required to construct approximately 2.5 miles of new fence to exclude these lands from the allotment.

On October 17, 2003, received a protest of the proposed Decision Record to renew the term grazing for Allotment 65069 from the Center for Biological Diversity. Upon a review of the protest, RFO determined the protest was timely and with standing.

Under the provision of 43 CFR 4160.2 and 4160.3, the Authorized Officer shall review the proposed decision, in the light of the protestant's statement of reasons and other pertinent information, and issue a final decision. The substance of the points of protest is markedly similar to the comment letter for the EA BLM received on April 9, 2003 from the Center of Biological Center.

In summary the protest claims the action analyzed does not conform with the Roswell Resource Management Plan (RMP), the New Mexico Standards for Rangeland Health are not being met, the environmental assessment (EA) lack scientific integrity, the construction of alternatives was not reasonable, BLM failed to analyze the interrelated and interdependent impacts, BLM has violated the Endangered Species Act (ESA), and BLM has reached an irrational, suboptimal decision.

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[1] For a cattle operation, an animal unit (AU) is defined as one cow with a nursing calf or its equivalent. An animal unit month (AUM) is the amount of forage needed to sustain that cow and calf for one month.

The protestant followed these seven claims with specific statements, these include:

**1. The proposed action does not conform with the Roswell RMP.**

> *"The 1997 Roswell RMP says p 65:- "Public grazing leases or permits affecting about 3000 acres of public land currently in Allotments 65060, 65062, and 65069 [Calumet ranch] will be adjusted to improve habitat for wintering waterfowl habitat [sic]. Adjustments may include changes in stocking rate and seasons of use, such as reducing yearlong grazing between March 1 and June 30. The grazing lease on Allotment 65041 will be cancelled" (emph added)"*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

There are approximately 200 acres of Public Lands in allotment #65060 and Allotment #65062 that lie outside the ACEC boundary. The actions described in this paragraph have taken place or are in the process of being implemented. The proposed action includes the pursuance of negotiations to remove public land acres in Spring pasture from grazing use.

> *The proposed action is to continue permitted use per a 1995 "agreement" that pre-dates the RMP for 1787 AUMs of yearlong use. The EA states clearly that "[t]here would basically be no change from current livestock management" (p.4) which alarmingly appears to be "generally left to the discretion of the permittee."*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

The citations quoted from the EA are no longer relevant and the pages numbers are incorrect.

> *Recategorizing from a maintain to improve category indicates that management has degraded the status of the allotment.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

The recategorization of the allotment from an "M" to an "I" category does not necessarily mean conditions have degraded. Moving an allotment to a different category does not indicate the status of an allotment. In this case, the designation of the area as an ACEC intensifies the management of the area. Therefore, BLM moved the category from "M" to "I" to show the change in management.

> *A list of range developments and other minor changes are supposed to constitute "special management in pastures within the Overflow ACEC." (p. 4):-*
> *-move a cattle trough "to avoid potential conflict with public land users" - not a grazing prescription to improve waterfowl habitat (The relocation of the water trough also seems to involve "reseeding" (p. 7) why wasn't this described in detail as part of the proposed*

*action? Reseeding with what native species? Will ground disturbing equipment be used?)*
*-new fence to "deter illegal dumping and off-highway vehicle use" and remove other fences - not a grazing prescription to improve waterfowl habitat*
*-kill saltcedar- not a grazing prescription*
*-information signs for OHVs and hazards - not a grazing prescription*
*-continue seasonal rest on a 1071 ac portion (not even the whole) of Spring pasture, i.e. no change in grazing management. "Seasonal rest" is not fully described under proposed action. Does this involve a reduction in yearlong grazing or not? Does this involve a change in stocking rate?*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

The purpose of this EA would be to authorize livestock grazing on public range within this allotment. If the protestant is looking for management prescriptions designed to improve waterfowl habitat, they are contained in the Overflow Wetlands ACEC Activity Plan and EA that was sent to the protestant. Those documents described the specific actions that would be undertaken within the Spring Pasture of this allotment and these actions are referenced on pages 4 and 7 in EA No. NM-060-2002-100.

The actions outlined in Alternative B were meant to be pro-active measures to facilitate the melding of the prescriptions for the Overflow Wetland ACEC with the permit renewal process and negate the need to amend the permit at a later date. The RMP prescription for the Overflow Wetland ACEC does not preclude livestock grazing.

*It is evident that since the RMP was instituted the BLM is not following the direction in the RMP to adjust public grazing leases or permits to protect wintering waterfowl habitat, including the endangered Interior Least Tern. There is no survey or analysis of wetland condition. The only survey done shows significant and substantial declines in both range condition and similarity index over 20 years. Range condition and similarity in 2001 were the lowest ever recorded in Spring pasture which is in the Overflow ACEC, and yet the BLM proposes to continue management unchanged.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

BLM disagrees with the protestant. BLM believes it has made the appropriate adjustments in the grazing allotments to enhance waterfowl habitat. As to the interior least tern, the Biological Opinion from the USFWS (Roswell RMP, Appendix 11, page AP11-99) states:

> "It is the Service's opinion that effects to the interior least tern or it habitat from BLM-managed activities are not likely to jeopardize the interior least tern's continued existence"

BLM's analysis of the impacts on the interior least tern's habitat by authorizing grazing for this allotment can be found on pages 18 and 19 of the EA. For more discussion of range condition and conformance to New Mexico Standards for Rangeland Health, see No. 2 below.

Approximately 1,340 acres of Public Lands in the Spring and West #1 pastures of allotment #65069 that are within the Overflow Wetland ACEC boundary. Both the 1997 Roswell RMP and the 2000 New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing EIS allow for livestock grazing. The RMP allows for periodic review of monitoring data in accessing if changes are needed. A review of the long term monitoring data indicates the permitted use level of 438 AUs at 34% Public Land for 1,784 AUMs is in balance with the resource conditions for the allotment. The evaluation of monitoring data does include a utilization level of 45 percent. Additional forage quality factors were incorporated into the review. For more discussion of range condition and conformance to New Mexico Standards for Rangeland Health, see No. 2 below.

> *The proposed action is not fully described in the EA and it is impossible for the public to know what is going on on the basis of the minimal information provided by the BLM.*
> *-There is no description of the rotation timing or stocking rates in different pastures*
> *-There is no estimate of grazing capacity to support the number of livestock permitted*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

A description of rotation method can be found on page 3 of the EA. The number of livestock permitted is found on page 3 of the EA. Acres within each pasture can be found in Table 1 on pages 5 and 6 of the EA

> *The "mitigation measures" listed (p 24) are not mitigation measures. They are merely what BLM is already supposed to be doing- monitoring and making sure grazing is not having a negative impact.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

The page number of the citation is incorrect. The protestant provides no other information to support this assertion.

> *In response to comments, BLM has not answered the above points provided in our comment letter of 8 Apr 2003.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

BLM has answered these points. The protestant apparently does not accept the answer.

**2. Range condition has degraded under current management- Standards and Guidelines not being met.**

> *Range condition in 2001 was the lowest ever recorded in West #1, #11 and shipping trap and Odom (p. 10). The average similarity to potential natural community in 2001 was the lowest ever recorded (p. 11). Despite this evidence that management is degrading the range condition and driving vegetation aay from PNC, the BLM proposes to continue management "basically" unchanged. From this the BLM draws a contradictory and unsupported conclusion that "upland vegetation would continue to improve" when it is not even improving now.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

The page citations are incorrect. The range condition and/or similarity index measures are only a part of the overall equation to assess public land health. The similarity index provides a "standard" for measurement of current conditions. Use of this index must also be tempered with the capability of the soils and climatic factors to produce and sustain the vegetative community described by the site guides. These site guides by necessity must cover a wide range of soil types and each soil type may support a slightly different vegetative stand. The absence of a PNC rating does not mean a site is degraded, unproductive or does not meet the public land heath standards.

> *As a caveat however, the NRCS ecological sites inventory is fundamentally flawed and unscientific as it is not based on areas that have been free of human impacts, especially grazing. The entire west has been vegetatively and ecologically transformed by livestock and the supposed ecological sites of NRCS do not, indeed cannot, represent pristine conditions unless they are the rare sites that have never been grazed by livestock. Only a handful of sites that have never been grazed (such as Dutchwoman Butte- Ambos, N., G. Robertson & J. Douglas. 2000. Dutchwoman Butte: a relict grassland in central Arizona. Rangelands 22: 3-8.) can legitimately be used as reference sites for PNC.*
>
> *This constitutes clear evidence that standards and guidelines for rangeland health are not being met and no management action is being taken to meet S&Gs. Indeed the BLM admits that management is "generally left to the discretion of the permittee," an admission of complete dereliction of the BLM's duty under law to protect public resources and legally actionable.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

This statement is clearly out of date. The citations are not relevant and an evaluation of the allotment for conformance to Standards for Rangeland Health has been completed.

> *In response to comments BLM reports that a Standards and Guidelines assessment found that the Calumet ranch was meeting standards. However the actual assessment found*

*"moderate to extreme" pedestalling at one site and invasive plants at others. Both problems are a well-recognised problem associated with livestock, and no evidence is presented apart from opinion that this was not caused by livestock.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

The evaluation of conformance with the New Mexico Standards for Public Land Health (rangeland health) has been completed and the determination was signed August 25, 2003. The results indicate Allotment No. 65069 meets the standards developed for New Mexico. This document may be accessed through the BLM Roswell Field Office's Web page at http://www.nm.blm.gov/www/rfo/index.htm. Rather than look at the entire evaluation or provide additional information, the protestant cites two factors out of 22 as evidence the allotment does not conform to rangeland health standards and then infers the allotment does not meet the standard without ever having visited the site to conduct a similar evaluation.

*It does not matter if NRCS site descriptions are used as a "yardstick" by agencies. What matters is if the ecological reference site has been grazed or not. If it has, it is useless as a reference site for examining the impacts of grazing.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

The use of NRCS ecological site descriptions is the yardstick agreed upon by agencies, academics and resource professionals. Use of these descriptions is mandated by BLM policy set by BLM's Washington Office. Therefore, the choice of whether or not to use the NRCS site descriptions is out of the hands of the Roswell Field Office and beyond the scope of this EA.

**3. Lack of scientific integrity**

*The claim p 12 that under no grazing alkali sacaton would become "decadent" is not supported by any scientific evidence. The term "decadent" is not recognized in biology. It is a myth constructed by advocates to promote livestock grazing. In a series of studies Belsky searched for evidence that grazing is beneficial to western ecosystems and found no scientifically credible evidence. These papers are online at http://www.onda.org/library/papers/index.html for your reference.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

Bunch grasses, such as alkali sacaton, do become decadent overtime if top growth is not removed by some means (i.e. grazing, mowing, prescribed fire or wildfire). The meri-stematic growth tissues of a grass plant are located in the basal root crown of the plant and without the periodic removal of stem/leaf growth the plant literally chokes itself. This causes the plant to die from the center out and overtime will reduce the vigor of the plant and in time the plant will possibly die. The latter portion of this cycle is when a plant will become decadent.

*In response to comments BLM claims without citing any studies or evidence that alkali sacaton among other bunchgrasses "do become decadent overtime if top growth is not removed by some means (i.e. grazing, mowing, prescribed fire or wildlife)." Unfortunately no citation to credible scientific data is given for this opinion. I did a literature search of the AGRIS, CAB and BIOSIS databases with the words "decadent" and "grass*". No relevant records were returned. Whilst there is evidence in the literature that some grasses that are known to be highly grazing tolerant can suffer if top growth is not removed (Belsky, A. J. (1986). "Does herbivory benefit plants? A review of the evidence." The American Naturalist 127(6): 870-892.), there is no such evidence for native southwestern bunchgrasses. The fact that native bunchgrasses may be tolerant of or adapted to fire does not mean they are adapted to grazing. The BLM's statement seems to indicate a belief that livestock grazing is equivalent to fire. It is not. Fire is a very different form of disturbance and native grasses that do well with frequent fires retreat under the more selective pressure of livestock.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

Members of the Roswell Field Office staff queried the web search engine Google with the words "decadent" and "grass" which supplied at least 16 pages of documents. Discounting the documents from state and federal agencies on this list (there were 11 agencies), the list included documents from accredited universities such as Oregon State University, Notre Dame University, Texas Tech University, the Universities of Manitoba and Alberta, Texas A&M, and the University of Arizona. The author's contention that decadent is not a term used in biology is not proven.

*"Deleterious effects of herbivory have been shown in the vast majority of studies and are assumed to have contributed to the evolution of structural, chemical, and phenological defense in plants." After reviewing over 40 papers used in support of the thesis that grazing benefits plants and that herbivores and plants have evolved a mutualistic relationship, the author concludes that there is little hard evidence to support the claims. "Although herbivores may benefit certain plants by reducing competition or removing senescent tissue, no convincing evidence supports the theory that herbivory benefits* grazed plants."

*In one paper posted in this site Belsky and Gelbard amass evidence that shows livestock to be a major facilitating factor for weed invasions. Hence weed invasions are expected to be halted or retreat if grazing is removed on the basis of this scientific evidence.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

There are areas of public land managed by RFO in which livestock grazing did not initiate a weed invasion, is not a factor in the spread of these weeds and, in cases where there is no livestock grazing, the spread of weeds has not halted or retreated. The author's blanket conclusion is not logical.

*Most recently a review of all available studies of light to moderate grazing comared with no grazing found no evidence for the myth of "decadence." Rather the opposite was found, less vegetative biomass, less ground cover, fewer rodents, less diverse rodents, less cryptobiotic soil crusts, more soil erosion, less water infiltration (Jones, A. 2000. Effects of cattle grazing on North American arid ecosystems: a quantitative review. Western North American Naturalist 60: 155-164.).*

*The EA cites the discredited claims of Savory with regard to supposed beneficial effects of grazing, repeating the mythical "decadent" claim. Other range scientists have for some time now, debunked Savory's claims, as reviewed in Holechek, J.L., H. Gomes, F. Molinar, D. Galt & R. Valdez. 2000. Short-Duration Grazing: The Facts in 1999. Rangelands 22: 18-22.*

*The BLM claims a negative impact of no grazing on riparian habitat because of the mysterious claim that "Grazing would no longer be available as a vegetation management tool" (p. 24) which we translate as "there would be nothing for cows to eat". Riparian areas do not need any "vegetation management" by cows. There is no science at all to support this bogus claim. Rather Belsky et al 1999 (see www onda.org for full text) in their extensive literature review report that no a single study out of hundreds available shows any positive value of livestock in riparian areas.*

*The analysis of floodplain impacts is flawed and self contradictory. Having just admitted that grazing compacts soils and removes vegetation that slows runoff and soil erosion (p. 13), how can there by no impact on flooding of continuing to graze not just this area, but virtually the entire landscape as a cumulative impact?*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

BLM disagrees with the protestant analysis and assertions. Riparian/floodplain areas on this allotment are less the 0.003 percent of the total lands within this allotment and encompass less than 80 acres of public and state lands. This area is located in the extreme western edge of the Spring Pasture and BLM will pursue the removal of public lands within this pasture from the allotment. (See EA No. NM-060-2003-168.) The overall and cumulative impacts to these areas are minimal. The author's translation is not born out by the EA.

*Similarly, the impact on water quality of grazing is significant. NMED assessments are flawed by systematic failure to measure sediment and other livestock generated contaminants such as E.coli and Cryptosporidium during or after rainfall events (Tate, K.W., E.R. Atwill, M.R. George, N.K. McDougald & R.E. Larson. 2000. Cryptosporidium parvum transport from cattle fecal deposits on California rangelands. Journal of Range Management 53: 295-299.)*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

A portion of the environmental assessment bears repeating (page 13). Under the authority of the Clean Water Act, the New Mexico Water Quality Control Commission (WQCC) has surveyed the segment of the Pecos River this allotment drains into. WQCC determined this segment of the Pecos River was not impaired by livestock grazing. In matters relating water quality, BLM defers to the New Mexico Environment Department and WQCC. If the protestant truly believes the WQCC has erred or has flaws in it survey process, he needs to contact NMED.

**4. Construction of alternatives not reasonable.**

> *NEPA regulations (40 C.F.R. 1502.14) require that agencies should "(r)igorously explore and objectively evaluate all reasonable alternatives ... ". Similarly, recent case law has established that consideration of alternatives which lead to similar results is not sufficient to meet the intent of NEPA. Citizens for Environmental Quality v. United States, 731 F. Supp. 970, 989 (D.Colo. 1989); State of California v. Block, 690 F.2d 753 (9th Cir. 1982).*
>
> *The no grazing alternative as constructed is not reasonable. Rather it is deliberately constructed in a biased way to make it look worse than the proposed grazing alternative. The proposed grazing alternative is not even really a grazing alternative. Rather it incorporates all manner of fence construction or removal for purposes that have nothing to do with grazing management (see above and EA p. 5), signage for ORVs, and saltcedar treatment. There is no logical reason why these actions should be connected to a grazing alternative, and not conducted independently of grazing to meet BLMs obligations under the RMP. The RMP and related law requires these kinds of treatments for non-grazing related impacts regardless of whether the allotment has cows or not. By artifically pretending that these treatments would not take place under the no grazing alternative the BLM makes bogus claims such as that saltcedar will continue to be a problem under the no grazing alternative (p 12).*
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> *In response to comments, BLM failed to answer these charges.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

Impacts and analyses on a no grazing alternative were analyzed in the 1994 Range Reform EIS, the 2000 New Mexico Standards for Rangeland Health and Guidelines for Livestock Grazing EIS. BLM is not required to analyze additional alternatives when the impacts of those additional alternatives are not appreciably different from the alternatives already analyzed.

When this proposed action (permit renewal) was initiated, the Overflow Wetland Management Plan had not been started. Many of the actions outlined in Alternative B were pro-active measures to facilitate the melding of the prescriptions for the Overflow Wetland ACEC with the permit renewal process and negate the need to amend the permit at a later date. The management prescription for the Overflow Wetland ACEC found in the Roswell RMP does not preclude grazing.

If the protestant is looking for management prescriptions designed to improve waterfowl habitat, we refer him to the Overflow Wetlands ACEC Activity Plan and EA that was sent to him. Those documents described the specific actions that would be undertaken within the Spring Pasture of this allotment.

> *The assertion that BLM states on what is now page 11, that salt cedar would be a problem under the no grazing alternative is not born out by the environmental assessment. In reality, the document states on page 11 that under the no grazing alternative, the alkali sacaton composition would be tempered by saltcedar dominating certain areas of the draws.*

BLM maintains it has answered these "charges."

**5. Interrelated and interdependent impacts**

> *The BLM does not appear to have analyzed the impacts of grazing on federal state and private lands under control of the same permittee, including other allotments. Grazing on such lands would likely be affected by a determination to not graze this allotment (the "but for" test). Therefore the interrelated and interdependent environmental impacts of grazing on connected lands must also be analysed, <u>including</u> dewatering of streams to provide irrigated forage for the same livestock- a negative impact on listed species including but not limited to the Pecos Bluntnose Shiner, Interior Least tern and Pecos Sunflower.*
>
> *In response to comments BLM refused to consider the impacts of dewatering streams to grow feed for the same cattle that use the allotment.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

The permittee does not control other allotments with RFO. See pages 17 – 20 of the document for determinations of no affect on listed species. The allotment contains no habitat for the Pecos bluntnose shiner, the Pecos gambusia, the Pecos sunflower, or the interior least tern.

The request to analyze the dewatering of streams to provide irrigated forage for the cattle on this allotment is remote and speculative and, therefore, need not be addressed by this EA. There are no streams within this allotment to be "dewatered" for the purpose of growing irrigated forage nor is irrigated forage grown within this allotment or on the base properties associated with this allotment. Irrigated forage is a staple of the Pecos River valley, the majority of which is used to feed dairy cattle. For that reason alone, growing irrigated forage would continue within the area regardless of the number of livestock on public lands.

Cumulative impacts connected to livestock grazing on public lands was analyzed and disclosed in the 1997 Roswell Resource Management Plan and the New Mexico Standards for Public Land Health and the Guidelines for Livestock Grazing EIS of 2000.

**6. ESA**

> *The Center contends that the effects of grazing when measured cumulatively as a dominant impact on the entire landscape on critical habitat for Pecos Bluntnose Shiner, are not "insignificant and discountable." The wetland habitat for interior least tern and Pecos sunflower that occurs on the allotment could be severely degraded. We do not know, as the BLM admits to not assessing habitat condition. BLM could have excluded wetland habitat from grazing, per direction of the RMP, but did not construct a reasonable alternative that involves such a closure. If few nesting terns have been found (p.20), perhaps it is because BLM has done nothing to change grazing degradation of their habitat. BLM lists "excessive livestock grazing" as a threat to the sunflower without defining what "excessive" is. The study by Jones cited above found across many independent studies that "light to moderate" grazing is "excessive" in that it causes statistically significant changes in soils, vegetation and wildlife. On the basis of this scientific evidence we can only conclude that the livestock grazing already permitted and proposed is "excessive" & is causing significant harm to endangered species, and thus an impact that invites legal action. The degradation of uplands by grazing as documented in the EA, also constitutes negative impacts on the riparian and wetland habitats of listed species by affecting hydrology and water quality, and consititutes unreported impacts on other listed upland species.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

See pages 17 – 20 of the document for determinations of no affect on listed species. The allotment contains no habitat for the Pecos bluntnose shiner, the Pecos gambusia, the Pecos sunflower, or the interior least tern. Riparian/floodplain areas on this allotment are less the 0.003 percent of the total lands within this allotment and encompass less than 80 acres of public and state lands. This area is located in the extreme western edge of the Spring Pasture and BLM will remove public lands within this pasture from the allotment. (See EA No. NM-060-2003-168.) The overall and cumulative impacts to these areas are minimal.

A portion of the environmental assessment bears repeating (page 13). Under the authority of the Clean Water Act, the New Mexico Water Quality Control Commission (WQCC) has surveyed the segment of the Pecos River this allotment drains into. WQCC found this segment of the Pecos River was not impaired by livestock grazing. In matters relating water quality, BLM defers to the New Mexico Environment Department and WQCC.

The evaluation of conformance with the New Mexico Standards for Public Land Health (rangeland health) has been completed, the determination was signed August 25, 2003. The results indicate Allotment No. 65069 meets the standards developed for New Mexico.

**7. Irrational, suboptimal decision.**

> *Multiple use law does not mandate any given use to continue regardless. rather the combination of allowed uses must "best meets" the needs of the public. Assessing what combination "best meets" public needs is the function of the NEPA process. While NEPA law does not require the agency to select the optimal alternative, Multiple use prescription of FLMPA do require this. In addition FLMPA requires the BLM to consider the relative scarcity of the various resource values, and alternative sites for their realization. Resource values are listed in the EA as livestock production, vegetation, soils, floodplains, water quality, riparian/wetland, wildlife,T&E species,visual resources, recreation, cave and karst, air quality. Grazing is suboptimal compared with no-grazing for vegetation, soils, floodplains, water quality, riparian/wetland, wildlife,T&E species, visual resources and recreation due to the recognised and well documented negative impacts of livestock on all aspects of natural ecosystem function. Unless livestock production outweighs all these other resources in BLM how is it possible for the grazing alternative to be considered optimal? Clearly BLM is weighting livestock production as more important that all other resource values combined. How is this consistent with the multiple use prescription to "best meet" the needs of the public at large, as opposed to the interests of a few ranchers? There is no consideration given to the relative scarcity of values. Livestock production has many alternative sites for realization. Listed species do not. Unique natural characteristics of these lands do not.*

After review of the EA, and Alternative D, BLM Preferred Alternative selected in the Proposed Decision Record and the Roswell RMP, BLM RFO offers the following:

See previous RFO responses to the protestant's statements.

After reviewing the points of protest and/or comments, I find no substantive reason(s) that indicate that the proposed decision was in error and the Protestant offered no new information that affects the decision. Therefore my final decision is to renewal the grazing authorization on the Calumet Ranch allotment 65069 as proposed in Alternative D, BLM Preferred Alternative and as follows:

> Issue Conejo Cattle Co. a term permit to graze cattle on Allotment 65069 to coincide with the base property lease held by the permittee. Permitted use would authorize the grazing of 438 animal units (AUs) at 34 percent public range, which corresponds to 1787 animal unit months (AUMs).[2] BLM will pursue negotiations with the owner of the base properties and permit owner to relinquish the grazing privileges connected to the 440 acres of public land within the Spring pasture to serve as a buffer area for the Overflow Wetland ACEC. If successful, BLM would be required to construct approximately 2.5 miles of new fence to exclude these lands from the allotment.

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[2] For a cattle operation, an animal unit (AU) is defined as one cow with a nursing calf or its equivalent. An animal unit month (AUM) is the amount of forage needed to sustain that cow and calf for one month.

Pursuant to the provisions of 43 CFR 4.21, 4.470, and 4160.4 any person whose interest is adversely affected by a final decision of the Authorized Officer has 30 days of the receipt of the Final Decision in which to file an appeal to the Field Office Manager for the purpose of a hearing before an Administrative Law Judge. The appeal must state clearly and concisely in writing the reason(s) why the appellant thinks the final decision is in error.

To receive consideration for staying the implementation of this Final Decision, the appellant must specify how he/she would be harmed if the stay was not granted. If a petition for stay is not granted the decision will be put into effect following the 30-day appeal period. Appeal can be file at the following address:

Field Office Manager
Bureau of Land Management
Roswell Field Office
2909 West Second Street
Roswell, NM 88201

/s/ Edwin L. Roberson 11/20/2003

Edwin L. Roberson
Roswell Field Manager

Date

Finding of No Significant Impact and Decision Record

EA No. NM-060-2002-100
Grazing Authorization on Allotment 65069, Calumet Ranch

FINDING OF NO SIGNIFICANT IMPACT: I have reviewed this environmental assessment including the explanation and resolution of any potentially significant environmental impacts. I have determined the proposed action will not have significant impacts on the human environment and that preparation of an Environmental Impact Statement (EIS) is not required.

Rational for Recommendations: The proposed action would not result in any undue or unnecessary environmental degradation. The proposed action will be in compliance with the Roswell Resource Management Plan and Record of Decision (October, 1997); the New Mexico Standard for Public Land Health and Guidelines for Livestock Grazing Management (2000), and the Overflow Wetlands Area of Critical Environmental Concern (ACEC) Activity Plan (2003).

DECISION RECORD

Decision: I have reviewed this proposed action, including the environmental impacts and have determined that the proposed project is in conformance with the approved land use plans. Therefore, no further environmental analysis is required. It is my decision to authorize the grazing of 438 animal units (AUs), which corresponds to 1787 animal unit months (AUMs).on this allotment. Comments made to this proposed action were considered and changes have been incorporated into the environmental assessment.

Any person who is adversely affected by a final decision of the authorized officer may file a written appeal to the Final Decision for the purpose of a hearing before an administrative law judge under 43 CFR 4.470. A period of 30 days after the decision becomes final is provided in which to file an appeal and a petition for stay of the decision in this office.

/s/ T. R. Kreager 10/2/2003

T. R. Kreager, Date
Assistant Field Office Manager - Resources

# ENVIRONMENTAL ASSESSMENT

for

Section 3

GRAZING AUTHORIZATION

on

ALLOTMENT 65069

Township 12 and 13 South, Range 26 and 27 East
Various Sections

EA-NM-060-02-0100

June 2002

U.S. Department of the Interior
Bureau of Land Management
Roswell Field Office
Roswell, New Mexico

# I. BACKGROUND

## A. Introduction

When authorizing livestock grazing on public range, the Bureau of Land Management (BLM) has historically relied on a land use plan and environmental impact statement to comply with the National Environmental Policy Act (NEPA). A recent decision by the Interior Board of Land Appeals, however, affirmed that the BLM must conduct a site-specific NEPA analysis before issuing a permit to authorize livestock grazing. This environmental assessment fulfills the NEPA requirement by providing the necessary site-specific analysis of the effects of issuing a new grazing permit on Allotment 65069.

The scope of this environmental assessment is limited to the effects of issuing a new grazing permit on Allotment 65069. Over time, the need could arise for subsequent management activities that relate to grazing authorization. These activities could include vegetation treatments (e.g., prescribed fires, herbicide projects), range improvement projects (e.g., fences, water developments), and others (e.g., wildlife habitat improvement projects). Future rangeland management actions related to livestock grazing would be addressed in project-specific NEPA documents as they are proposed.

Though this environmental assessment specifically addresses the impacts of issuing a grazing permit on Allotment 65069, it does so within the context of overall BLM management goals. Allotment management activities would have to be coordinated with projects intended to achieve other resource management goals. For example, a vegetation treatment designed to enhance watershed condition or wildlife habitat may require rest from livestock grazing for one or more growing seasons. Requirements of this type would be written into the permit as terms and conditions.

### B. Purpose And Need For The Proposed Action

The purpose of issuing a new grazing permit would be to authorize livestock grazing on public range on Allotment 65069. The permit would be needed to specify the types and levels of use authorized, and the terms and conditions of the authorization pursuant to 43 CFR "4130.3, 4130.3-1, 4130.3-2, and 4180.1.

### C. Conformance With Land Use Planning

The proposed action conforms to the Roswell Approved Resource Management Plan (RMP) and Record of Decision (BLM 1997) as required by 43 CFR 1610.5-3.

### D. Relationships to Statutes, Regulations, or Other Plans

The proposed action and alternatives are consistent with the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1700 et seq.); the Taylor Grazing Act of 1934 (43 U.S.C. 315 et seq.), as amended; the Clean Water Act (33 U.S.C. 1251 et seq.), as amended; the Endangered Species Act (16 U.S.C. 1535 et seq.) as amended; the Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 et seq.); Executive Order 11988, Floodplain Management; and Executive Order 11990, Protection of Wetlands.

# II. PROPOSED ACTION AND ALTERNATIVES

## A. Proposed Action - Current Livestock Management

The proposed action is to issue Conejo Cattle Co. a five-year permit to graze cattle on Allotment 65069. Permitted use would authorize grazing of 438 animal units (AUs), which corresponds to 1787 animal unit months (AUMs).[1] Total permitted use includes 438 AUs (1787 AUMs) for cattle distributed yearlong among the pastures at 34 percent public range. The grazing system employed is a single herd rotated through the pastures within the allotment as forage is available after rest.

There would be no change from current livestock management as conducted by the permittee, or to existing range improvements already in place. Future projects or activities identified by the permittee or the BLM can still be considered for implementation. Rangeland monitoring would continue on the allotment and changes to livestock management would be made as necessary. If new information surfaces that livestock grazing is negatively impacting other resources, action will be taken to mitigate those impacts.

## B. Alternative B - Modified Livestock Management Alternative

Permitted use would be the same as described under the Proposed Action, except for the following change that emphasizes special management in pastures within the Overflow Wetlands ACEC.

Alternative B focuses on the health of the Overflow Wetlands ACEC as part of the overall rangeland health considerations for the allotment. The allotment would be recategorized from an M to an I allotment. This alternative would incorporate the following projects primarily within Spring Pasture on the west side of the allotment:

- Relocate a livestock water currently in T. 12 S., R. 26 E., Section 22, NW¼NW¼ to Section 27, SW¼NE¼. Reconstruct about one mile of 1¼-inch pipeline to supply the unit (BLM Project #4821) to avoid potential conflicts with public land users along the south access route.

- Construct a 4-mile, 4-strand barbed wire pasture fence along the west side of State Road 409 beginning at the southeast corner of T. 12 S., R. 26 E., Section 10 and ending in Section 34, SW¼NW¼, to deter illegal dumping and off-highway vehicle use on public and private lands in Section 22, 27 and 34.

- Remove fences in T. 12 S., R. 26 E., Section 9 and 10 not necessary for livestock management or habitat protection purposes.

[1] For a cattle operation, an animal unit (AU) is defined as one cow with a nursing calf or its equivalent. An animal unit month (AUM) is the amount of forage needed to sustain that cow and calf for one month.

- Conduct saltcedar eradication in T. 12 S., R. 26 E., Section 15 and 22 by mechanical and chemical methods (post mechanical treatments of resprouts with an approved herbicide by hand spraying).

- Post information signs for restrictions on off-highway vehicle use and illegal dumping, ACEC boundary signs with Roswell FO contact information, hazard signs for a new sinkhole on state land, undercut banks along the Pecos River, and boggy conditions along the El Paso Natural Gas Pipeline access route.

- Continue seasonal rest over about 1,071 acres of land in Spring Pasture (four percent of the allotment).

- Investigate the possibility of cooperatively conducting saltcedar and mesquite control in State land section 16.

### C. No Grazing Alternative

Under this alternative no grazing would be authorized on federal land and a new grazing permit would not be issued for Allotment 65069.

### D. Alternative D - BLM Preferred Alternative

The revised proposed action is to issue Conejo Cattle Co. a term permit to graze cattle on Allotment 65069 to coincide with the base property lease held by the permittee. Permitted use would authorize the grazing of 438 animal units (AUs) at 34 percent public range, which corresponds to 1787 animal unit months (AUMs).[2] BLM would pursue negotiations with the owner of the base properties and permit owner to relinquish the grazing privileges connected to the 471 acres of public land within the Spring pasture to serve as a buffer area for the Overflow Wetland ACEC. If successful, BLM would be required to construct approximately 2.5 miles of new fence to exclude these lands from the allotment.

## III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

### A. General Setting

This BLM grazing allotment lies within the boundaries of the Roswell Grazing District established subsequent to the Taylor Grazing Act (TGA). Grazing authorization on public lands inside the boundary is governed by Section 3 of the TGA. Livestock numbers for the ranch are controlled under a Section 3 Permit, the permittee is billed for the amount of forage available for livestock on federal land. Vegetation monitoring studies are used to determine the allowable number of livestock on the ranch.

[2] For a cattle operation, an animal unit (AU) is defined as one cow with a nursing calf or its equivalent. An animal unit month (AUM) is the amount of forage needed to sustain that cow and calf for one month.

Allotment 65069 is in Chaves County about 15 miles southeast of Roswell, New Mexico. Elevations range from 3,695 feet on the uplands in northeast portion of the allotment down to 3,520 feet in the southeast portion of the allotment.

The climate is semi-arid with normal annual temperatures ranging from 20□F to 95□F at Bitter Lake National Wildlife Refuge (Kunkel 1984). Observed minimum and maximum temperatures were –22°F and 113°F, respectively. Average annual precipitation is 11.6 inches, primarily as rainfall (Owenby et al. 1992). Annual precipitation has ranged from 3.11 inches to 21.08 inches (Kunkel 1984).

## B. Affected Resources

The following resources or values are not present or would not be affected by the authorization of livestock grazing on Allotment 65069: Cultural Resources, Native American Religious Concerns, Prime or Unique Farmland, Minority/Low Income Populations, Hazardous or Solid Wastes, Wild and Scenic Rivers, and Wilderness. Affected resources and the impacts resulting from livestock grazing are described below.

### 1. Livestock Management

#### Affected Environment

In the past, the allotment has been permitted to be grazed yearlong by cattle. Grazing is by a cow/calf operation.

The allotment consists of eleven pastures and a trap (see map and Table 1). The allotment includes approximately 10,826 acres of federal land, 7,422 acres of private land, and 14,455 acres of State land.

**Table 1. Summary of Allotment Pastures**

| Pasture Name | Acres | Pasture Description |
|---|---|---|
| Spring | 1651 | Uplands; mixed BLM, state and private lands |
| West No. 1 | 2275 | Uplands; mixed BLM, state and private lands |
| West No. 2 | 1603 | Uplands; mixed BLM and private lands |
| West No. 3 | 3222 | Uplands; mixed BLM, state and private lands |
| Pasture No. 10 | 1782 | Uplands; mixed BLM, state and private lands |
| Black | 2899 | Uplands; mixed BLM, state and private lands |
| Pasture No. 11 & Trap | 973 | Uplands; mixed BLM, state and private lands |
| Wade | 1874 | Uplands; mixed BLM and private lands |
| | | |

| | | |
|---|---|---|
| Odom | 6496 | Uplands; mixed BLM, state and private lands |
| East No. 1 | 5337 | Uplands; mixed BLM, state and private lands |
| East No. 2 | 5095 | Uplands, State land and private lands |
| Allotment Total | 33207 | The general topography is rolling uplands |

Nine rangeland monitoring study sites have been in place on this allotment since 1981. More information on these study sites is found under Vegetation.

The allotment was placed in the "M" Category based on rangeland monitoring studies established by the BLM. Generally, an M-category designation indicated that the allotment is in satisfactory condition and there are no resource conflicts.

Goldenrod, a poisonous plant to cattle during the dormant season (frost to greenup), is found in some pastures. The livestock operator will generally remove cattle from these pastures during this time of year to prevent poisoning.

The allotment is grazed yearlong using a single herd rotation system. Currently, one herd is rotated through the allotment. Supplemental cake feed is provided during the winter months.

## Environmental Impacts

Under the Proposed Action, livestock would continue to graze public lands within the allotment. The permit authorized 438 AUs, and stated that grazing would be in accordance with a 1995 Rangeland Agreement. Existing pasture configurations and water developments would remain the same. Livestock management would still follow the single herd rotation system.

Under Alternative B, livestock would continue to graze a majority of public lands within the allotment. Livestock would not impact public lands within the Overflow Wetlands ACEC due to seasonal grazing. Livestock impacts would be further alleviated along the south access route due to the relocation of the watering trough and subsequent re-seeding of the old location. Grazing deferment may be required if mesquite control is conducted in Spring Pasture for a minimum of two growing seasons following the treatment.

Under Alternative C, there would be no livestock grazing authorized on public lands. The public lands would have to be fenced apart from the private lands or livestock would be considered in trespass if found grazing on public lands (43 CFR 4140.1(b)(1)). The expense of fencing would be borne by the private landowner.

Cumulative impacts of the grazing and no grazing alternatives were analyzed in *Rangeland Reform "94 Draft Environmental Impact Statement (BLM and USDA Forest Service 1994)* and in the *Roswell Resource Area Draft RMP/EIS (BLM 1994)*. The no livestock grazing alternative was not selected in either document.

Under Alternative D, the public lands in the Spring pasture would be removed from grazing. Current data indicates that approximately 7 AUs (84 AUMs) are attached to these lands. This is

less than four (4) percent of the current permit; and would not necessitate a change in total permitted use for the allotment.

**2. Vegetation**

Affected Environment

Allotment 65069 is comprised of Grassland, Mixed Desert Shrub, and Riparian-Wetland vegetation community types. For rangeland monitoring purposed, the allotment as a whole is within the Grasslands vegetative community as identified in the Roswell RMP. The distinguishing feature for the grassland community is that grass species typically comprise about 75 percent or more of the potential plant community. There are no range site descriptions available for the Riparian-Wetland type at this time.

Grasslands are intermixed with all community types. Tobosa grass, burrograss, sand dropseed, alkali sacaton, three-awn, black grama, gyp grama, bush muhly and fluffgrass are common. Tobosa grass is the dominant species. The grassland sites also have a fourwing saltbush, broom snakeweed shrub, or cacti (*Opuntia*) component. Riparian-wetland vegetation includes primarily inland saltgrass, cattail, and invading saltcedar.

General objectives or guidelines for each vegetation community (except for riparian/wetlands) are described in the Roswell Approved RMP and Record of Decision (BLM 1997) and the Roswell Draft RMP/EIS (BLM 1994). Table 1 summarizes the general vegetation resource objectives and monitoring data averages from 1981 to 2001.

**Table 1. General Vegetative Community Objectives**
(Monitoring Data Averages from 1981-2002)

| Component | Grassland | | Mixed Desert Shrub | |
|---|---|---|---|---|
| | Percent Cover | Vegetative Cover by Percent Composition | Percent Cover | Vegetative Cover by Percent Composition |
| Grasses | **15 - 52** (24.5) | **30 - 85** (92.6) | **11 - 28** (15.6) | **55 - 75** (75.1) |
| Forbs | | **10 - 15** (3.8) | | **10 - 20** (5.3) |
| Shrubs | **3 - 12** (1.1) | **1 - 10** (3.6) | **6 - 15** (5.5) | **15 - 20** (19.5) |
| Trees | | -- | | **1 - 10** (0.1) |
| Bare Ground | **14 - 60** (47.4) | -- | **10 - 40** (48.7) | -- |
| Small/Large Rock | **0 - 30** (.06) | -- | **15 - 35** (5.9) | -- |
| Litter | **8 - 44** (26.5) | -- | **1 - 12** (24.3) | -- |

Rangeland monitoring studies have been established in nine key areas within the allotment. Study sites contain key species for range condition determinations and may include alkali sacaton, tobosa, sand dropseed, blue and black grama. The data serve as the basis for range trend analysis and ecological range condition ratings and is used to track vegetation changes and to determine proper stocking rates.

Study sites are in the Loamy SD-3, Gyp Upland SD-3 and Shallow SD-3 range sites. The descriptions for these range site was developed by the Soil Conservation Service (now referred to as the National Resource Conservation Service) in their ecological site guides.

The range condition methodology compares collected rangeland monitoring information with the potential vegetation community *in terms of species composition by weight*. The rating is based on a scaled of 0 to 100 with 100 being the actual representative site. Table 2 depicts the ratings from 1981 to 2002.

| Table 2. Range Condition Ratings by Major Evaluation Year | | | | | |
|---|---|---|---|---|---|
| Pasture | 1981 | 1985 | 1990 | 1995 | 2001 |
| Spring | 53.36 | 62.88 | 57.60 | 55.89 | 42.98 |
| West No. 1 | 57.88 | 77.44 | 88.19 | 83.37 | 49.82 |
| West No. 2 | 53.08 | 63.74 | 65.49 | 55.88 | 66.71 |
| West No. 3 | | | | | |
| Pasture No. 10 | | | | | |
| Black | 62.99 | 75.35 | 76.15 | 65.83 | 67.88 |
| Pasture No. 11 & Shipping Trap | 72.04 | 53.24 | 75.45 | 61.66 | 52.55 |
| Wade | 53.10 | 49.49 | 59.26 | 53.44 | 59.78 |
| Odom | 48.76 | 33.71 | 67.45 | 58.92 | 37.86 |
| East No. 1 | 49.60 | 47.76 | 56.38 | 46.30 | 59.00 |
| East No. 2 | 50.68 | 46.69 | 51.89 | 43.22 | 51.50 |
| Allotment (Weighted Average) | 53.40 | 54.08 | 65.80 | 57.42 | 53.40 |

The National Resource Conservation Service (NRCS) has recently revised the methodology for determining ecological range condition. This methodology is called the Similarity Index (SI) which has been adopted by the BLM. The SI also compares collected rangeland monitoring information with the potential vegetation community described in the NRCS ecological site guide. The index is based on a scaled of 0 to 100 with 100 being the potential for the representative site. For the Loamy SD-3 range site, the normal year production is about 900 pounds per acre; for a Shallow SD-3 range site about 525 pounds per acre and for a Gyp Upland SD-3 range site about 500 pounds per acre. The index takes into account vegetation species present and the *relative amount of production for each species* when compared to the potential for the range site. Table 3 depicts the percentage of the normal year production by pasture from 1981 to 2001.

| Table 3. Similarity Index by Major Evaluation Year | | | | | |
|---|---|---|---|---|---|
| Pasture | 1981 | 1985 | 1990 | 1995 | 2001 |
| Spring | 40.20 | 44.60 | 56.60 | 53.00 | 30.00 |
| West No. 1 | 50.22 | 59.77 | 59.32 | 59.89 | 24.00 |

| | | | | | |
|---|---|---|---|---|---|
| West No. 2 | 46.89 | 44.56 | 57.11 | 52.44 | 45.00 |
| West No. 3 | | | | | |
| Pasture No. 10 | | | | | |
| Black | 33.32 | 29.44 | 41.78 | 48.55 | 30.12 |
| Pasture No. 11 & Shipping Trap | 34.11 | 36.89 | 42.33 | 24.55 | 34.67 |
| Wade | 30.48 | 29.91 | 59.42 | 50.28 | 53.52 |
| Odom | 36.96 | 28.76 | 67.60 | 56.57 | 39.22 |
| East No. 1 | 29.89 | 49.34 | 54.85 | 48.76 | 34.66 |
| East No. 2 | 33.71 | 40.77 | 50.09 | 44.57 | 39.81 |
| Allotment (Weighted Average) | 37.64 | 40.98 | 56.25 | 51.06 | 36.87 |

As an example of using the information provided in the above tables, in 1981 Pasture East No. 2 had an range condition rating of 50.68 (Table 2), which means that species composition by weight was about 50 percent of the species expected to occur in the potential natural community for the site. But, when compared to the production capability of the range site (525 pounds per acre), Pasture East No. 2 only produced 33.71 percent (Table 3) potential pounds per acre for the range site. The species composition was there but the production was low, and may be attributed to precipitation factors.

The RFO is currently in the process of integrating the revised methodology into current monitoring schemes. The standard range condition rating method is still utilized for comparison purposes. The Similarity Index data is only informational at this time with representative sites being updated on a statewide basis.

Noxious and Invasive Weeds: Noxious weeds affect both crops and native plant species in the same way, by out-competing for light, water and soil nutrients. Losses are attributed to decreased quality and quantity of agricultural products due to high levels of competition from noxious weeds and infestations. Noxious weeds can negatively affect livestock productivity by making forage unpalatable to livestock thus decreasing livestock productivity and potentially increasing producer=s feed costs. Potential noxious weed species include musk thistle and Russian knapweed. Known populations of invasive and noxious plants on the allotment include salt cedar and goldenrod.

## Environmental Impacts

Under the Proposed Action, grassland vegetation would continue to be grazed and trampled by livestock in all pastures, primarily the key grass species in each range site.
Upland sites would reflect a static ecological condition trend at the existing permit level. In the

long term, upland vegetation would continue to improve in all pastures from the implementation of a rest-rotation system.

Range monitoring data indicate that the vegetation is sustainable to meet multiple resource requirements and forage at the permitted use level under the Proposed Action and Alternative B. Data in Table 3 indicate that livestock grazing is compatible with vegetation cover and composition objectives.

Under Alternative B a long-term upward trend in ecological condition for all community types is expected from continued implementation of a rotation system.

Under Alternative D, the impacts would be similar to those under the other alternatives.

Noxious and Invasive Weeds: Cattle stocked on the allotment, supplemental feeds, and a variety of equipment may unintentionally contribute to the establishment and spread of noxious weeds. Noxious weed seeds could be carried onto the allotment by livestock, feed and equipment. The main mechanism for seed dispersion is by equipment previously used in noxious weed-infested areas.

Infestation of noxious weeds can have a potentially disastrous impacts on biodiversity and natural ecosystems. In order to combat the negative effects of noxious weeds on croplands, grazing lands and waterways, herbicidal and other weed control strategies can be implemented at further costs to producers and government agencies. Increased cost to producers are eventually borne by consumers. The potential for the dissemination of invasive and noxious weed seed on public lands would remain low on the allotment due to the limited use of the lands and increased public awareness of the noxious weed problem. Any populations of noxious weeds found on the allotment would be treated according to prescribed control methods for the particular species encountered.

Under Alternative C, no impacts to vegetation resources would occur on public lands from authorized livestock grazing. Vegetation cover would increase over the long term in some areas. Grasslands in the uplands would increase in cover and composition, but composition would be tempered by broom snakeweed somewhat dominating the shrub component. Alkali sacaton in the bottomlands would, in the short term, increase in cover and composition but would then taper off in the long term, becoming decadent from the lack of standing vegetation removal by grazing. Alkali sacaton composition would also be tempered by saltcedar dominating certain areas of the draws.

**3. Soils**

## Affected Environment

The *Soil Survey of Chaves County, New Mexico, Southern Part (USDA Soil Conservation Service 1983)* was used to describe and analyze impacts to soils on Allotment 65069. The major soil map units represented on the allotment are (in order of predominance):

> Holloman-Gypsum land complex, 3 to 5 percent slopes (HrC) occurs on the uplands in the western portion of the allotment. Runoff is medium and the hazard of water erosion

and soil blowing is moderate.

Reeves-Holloman complex, 0 to 5 percent slopes (RL) occurs in the west and central portion of the allotment. Runoff is medium, the hazard for water erosion and soil blowing are moderate.

Russler silty clay loam, 0 to 3 percent slope (Ru) occurs on the uplands in the central portion of the allotment. Runoff is medium, hazard of water erosion moderate, and the hazard for soil blowing is slight.

Tencee-Sotin association, 0-9 percent slope (TS) occurs in the east central portion of the allotment. Runoff is medium, hazard of water erosion moderate, and the hazard for soil blowing is slight.

Tencee-Sotin gravelley sandy loam, 1-9 percent slope (Te) ocurrs in the eastern portion of the allotment. Runoff is medium, hazard of water erosion moderate, and the hazard for soil blowing is slight.

Holloman-Gypsum land complex, 3 to 5 percent slopes (HSE) occurs as a narrow band in the eastern portion of the allotment. Runoff is rapid, the hazard of water erosion is severe, and the hazard of soil blowing is moderate.

### Environmental Impacts

Under the Proposed Action or Alternative B, livestock would remove some of the cover of standing vegetation and litter, and compact the soil by trampling. If livestock management were inadequate, these effects could be severe enough to reduce infiltration rates and increase runoff, leading to greater water erosion and soil losses (Moore et al. 1979, Stoddart et al. 1975). Producing forage and protecting the soil from further erosion would then be more difficult. The greatest impacts of removing vegetation and trampling would be expected in areas of concentrated livestock use, such as trails, waters, feeders, and shade.

Under the Proposed Action, Alternative B or Alternative D, rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion.

Under Alternative C, any adverse impact from livestock grazing would be eliminated. However, it is possible that removing grazing animals from an area where they were a natural part of the landscape could result in poor use of precipitation and inefficient mineral cycling (Savory 1988). Bare soil could be sealed by raindrop impact, and vegetation could become decadent, inhibiting new growth. Therefore, the results of no grazing could be similar to those of overgrazing in some respects.

## 4. Floodplains

### Affected Environment

The properties of any stream or river result from the interaction of its channel geometry, streamflows, sediment load, channel materials, and valley characteristics (Rosgen 1996). The

form and fluvial processes of the Pecos River have been modified by the construction of dams, which have drastically altered the streamflow and sediment regimes of the river. Flooding is less frequent and less severe than prior to dam construction, and sediment loads have been greatly reduced (see Figure 1). As a result, the channel has become moderately entrenched, and exhibits much less lateral migration than in the past. Flow regulation with the dams has also changed the extent, character, and condition of the riparian area on the river (Durkin et al. 1994). Sediment deposition on floodplains is important for riparian succession, and seasonal flooding is required for obligate riparian vegetation.

For administrative purposes, the 100-year floodplain provides the basis for floodplain management on public lands. They are based on Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency (1983). The 100-year floodplain is located in the west half of Sections 9 and 16 of T. 12 S., R. 26 E., within Allotment 65069. The 100-year floodplain lies entirely within the Spring Pasture and covers approximately 18 acres of public lands and 109 acres of State lands.

### Environmental Consequences

The Proposed Action, Alternative B or Alternative D would not significantly affect floodplains. The reduction in the frequency and magnitude of peak flows on the river would continue to be the primary influence on floodplain function.

### Cumulative Effects

Management activities for Allotment 65069 would not have a significant cumulative effect on floodplain function. Regulation of river flows would continue to be the primary influence on floodplain function.

## 5. Water Quality

### Affected Environment - Surface Water

The Pecos River does not cross the allotment although this allotment is adjacent to a river segment identified by the New Mexico Water Quality Control Commission (WQCC) which has specific designated uses and water quality standards. Segment 2206 is an 89-mile reach of the Pecos River from Salt Creek south to the Rio Penasco. The allotment drains to Segment 2206 via Commanche Draw, which empties to the river south of Salt Creek. Under the authority of the federal Clean Water Act, the WQCC (1995) designated uses for streams in New Mexico. Designated uses for Segment 2206 include irrigation, livestock watering, wildlife habitat, and secondary contact (e.g., wading). In addition, Segment 2206 has a warmwater fishery.

### Environmental Impacts - Surface Water

In general, livestock grazing is considered a potential cause of nonpoint source pollution, with sediment as the primary contaminant. Livestock grazing on the allotment, however, is not expected to be significant cause of sediment loading to the Pecos River under any management alternative. The NMED conducted an intensive assessment of Pecos River water quality in 1997. They concluded that no water quality standards have been exceeded in the past ten years

on Segment 2206 (NMED 1998a).

Bacteria and nutrients are other potential contaminants that can be related to livestock grazing. Elevated levels of ammonia may be noted, but livestock grazing on the allotment does not appear to have a significant impact on water quality.

### Affected Environment - Ground Water

The allotment lies at the northern end of the Roswell Basin monitoring area (New Mexico State Engineer 1995, Wilkins and Garcia 1995). Ground water is found in the alluvial aquifer at depths ranging from less than 10 feet near the river, to more than 75 feet in the uplands (Hudson and Borton 1983). Yields of 100 gallons per minute or more are possible from the alluvium (Geohydrology Associates, Inc. 1978). Ground-water quality is generally acceptable for stock use, though data are limited.

### Environmental Impacts - Ground Water

The WQCC has the primary responsibility for ground-water quality management in New Mexico. In their most recent report on water quality in New Mexico, the WQCC (1996) did not find livestock grazing on rangelands to be an important potential source of contamination to ground water.

Wilson (1981) also presented potential sources of ground-water contamination and the relative vulnerability of aquifers in New Mexico. He identified animal confinement facilities (e.g., dairies, feedlots) as potential sources of contamination elsewhere in New Mexico, including areas in the Pecos valley downstream from the allotment. Wilson did not identify livestock grazing on rangelands, however, as an important potential source of ground-water contamination.

Livestock grazing would not be expected to have a significant impact on ground-water quality under any management alternative. Livestock would be dispersed over the allotment, and the soil would filter potential contaminants.

Cumulative impacts to ground-water quality from grazing on Allotment 65069 would be negligible. Grazing impacts would be insignificant when compared to other potential sources of contamination, such as mineral development, saline intrusion, and agriculture.

## 6. Riparian/Wetland Areas

### Affected Environment

There are no historical spring locations on the allotment based on USGS maps, although BLM files indicate a spring/seep on public land located in a draw in T. 12 S., R. 26 E., Section 9, NW¼SE¼.

Wetland habitat exists on public and state lands, including a newly-formed sinkhole and its outflow located on State land in Section 16, SE¼NW¼. This ground level sinkhole is currently fenced to prevent livestock and property loss. Its margins are continually enlarging with the

potential for further growth from ground slumping. The primary wetland habitat is located in the southwest quarter of Section 9, intermingled with private land. An outflow channel leading to the Pecos River (one of three outflows of the Overflow Wetlands) crosses state land in the northeast quarter of Section 16. In addition, the third outflow channel to the Pecos River traverses the SW¼ of Section 16.

### Environmental Impacts

Under the Proposed Action and Alternative B, the greatest vegetation impacts would occur at livestock concentration areas such as watering areas. Utilization of grass species would be moderate. Riparian-wetland areas would continue to be productive from the relatively light stocking rate in Spring Pasture and the short duration livestock are in the pasture.

Under Alternative C, vegetation condition on the uplands would moderately improve. Improvement would be limited by existing exotic species that affect plant composition. Grasses would initially increase, but plant vigor could decline from lack of vegetation removal, making ground cover species rank. Since livestock grazing would not be permitted, range improvement projects such as brush control and exotic species control would be less likely to be implemented through the range program.

Under Alternative D, grazing would be eliminated on the 440 acres of public lands in the Spring Pasture. This area would serve as an upland buffer area for the wetlands below.

## 7. Wildlife

### Affected Environment

The allotment provides a variety of habitat types for terrestrial and aquatic wildlife species. The diversity and abundance of wildlife species in the area is due to the presence of a mixture of grassland habitat, mixed desert shrub vegetation, riparian-wetlands, and aquatic habitat.

Numerous avian species use the area during spring and fall migration, including nongame migratory birds. The Bitter Lake National Wildlife Refuge (BLNWR) is located several miles north of the allotment, and serves as a major focal point for migratory birds (e.g., ducks, geese, sandhill cranes, waterbirds). The Bottomless Lakes State Park is also located a few miles north of the allotment. Common bird species are mourning dove, mockingbird, white-crowned sparrow, black-throated sparrow, blue grosbeak, northern oriole, western meadowlark, Crissal thrasher, western kingbird, northern flicker, common nighthawk, loggerhead shrike, and roadrunner. Raptors include northern harrier, Swainson's hawk, American kestrel, and occasionally golden eagle and ferruginous hawk.

Common mammal species using the area include mule deer, pronghorn antelope, coyote, gray fox, bobcat, striped skunk, porcupine, racoon, badger, jackrabbit, cottontail, white-footed mouse, deer mouse, grasshopper mouse, kangaroo rat, spotted ground squirrel, and woodrat.

A variety of herptiles also occur in the area such as yellow mud turtle, box turtle, eastern fence lizard, side-blotched lizard, horned lizard, whiptail, hognose snake, coachwhip, gopher snake, rattlesnake, and spadefoot toad.

The Pecos River once supported a wide variety of native fish species adapted to the flow regime that existed prior to dam construction, agriculture development, and the introduction of non-native fish species. The greatest impact to fish habitat is the manipulation of water supply to meet irrigation needs. Representative Pecos River mainstem fish species include the red shiner, sand shiner, Arkansas River shiner, Pecos bluntnose shiner, plains minnow, silvery minnow, plains killifish, mosquitofish, speckled chub, river carpsucker and channel catfish. Some of these species may also be found inhabiting wetland habitat in Spring Pasture.

### Environmental Impacts

Under Alternative A, livestock grazing, if not properly managed, could continue to impact wildlife and habitat diversity by potential overutilization of vegetation that provides forage, browse and cover for a variety of wildlife species.

Under Alternative B, livestock grazing management and range improvement projects designed with consideration for wildlife would generally enhance the quality of wildlife habitat. Vegetation condition, forage production, and habitat diversity would improve, and wildlife species distribution and abundance would increase. The construction of livestock waters in previously unwatered areas would promote increased wildlife distribution and abundance, but may potentially increase grazing pressure in those same areas. Short-term impacts of range improvement projects would be the temporary displacement of wildlife species during construction activities.

Under Alternative C, there would no longer be direct competition between livestock and wildlife for forage, browse and cover. Wildlife habitat would moderately improve. The limitation for improvement would continue to be the existing invading species component (e.g., goldenrod, salt cedar, snakeweed) affecting plant composition. Since livestock grazing would not be permitted, range improvement projects that benefit wildlife, such as water developments, would be abandoned. New range improvement projects that would also benefit wildlife habitat, such as brush control, may not be implemented because these projects are primarily driven and funded through range improvement efforts.

Under Alternative D, the impacts of Alternative C would be similar for the 440 acres excluded from grazing in the Spring Pasture. Impacts to the remainder of the allotment would be similar to Alternatives A and B above.

## 8. Threatened and Endangered Species

The Pecos bluntnose shiner, Pecos sunflower, and interior least tern are federally listed species that occur or have the potential to occur in the area of interest. The status and presence of these species in the RFO area are discussed in the following section.

**Pecos Bluntnose Shiner** *(Notropis simus pecosensis)* - Federal Threatened

Historically, the Pecos bluntnose shiner inhabited the Pecos River from Santa Rosa to near Carlsbad, New Mexico. Currently, the subspecies is restricted to the river from the Fort Sumner area southward locally to the vicinity of Artesia, and seasonally in Brantley Reservoir (NMDGF 1988; USFWS 1992). Routine fish community monitoring conducted by the USFWS in the Pecos River between Sumner Dam and Brantley Reservoir show the fish remains generally abundant, especially in light of cooperative efforts between the Bureau of Reclamation and the USFWS to more closely mimic natural flows in the Pecos River.

There are two designated critical habitat areas on the Pecos River within the RFO area. The first is a 64-mile reach beginning about ten miles south of Fort Sumner, downstream to a point about twelve miles south of the DeBaca/Chaves county line. The second reach is from Highway 31 east of Hagerman, south to Highway 82 east of Artesia. Neither the Proposed Action nor Alternative A are within the designated critical habitat.

Loss or alteration of habitat (periodic dewatering), and introduction of non-native fish species of the Pecos River (Arkansas River shiner) are the key threats to the Pecos bluntnose shiner. The primary threat to the Pecos bluntnose shiner appears to be artificial manipulation of flows in the Pecos River to meet irrigation needs and subsequent drying of the river channel (NMDGF 1996). High flows in the late winter-early spring before natural spring runoff appear to displace fish into marginal downstream habitats (including Brantley Reservoir). Cessation of reservoir releases after spring runoff, before the advent of summer rains, desiccates long stretches of the Pecos River. Maintenance of water levels within the Pecos River and its tributaries is beyond the management authority of the BLM.

In addition to the manipulation of flows is the threat posed by non-native fish. The introduction and establishment of species such as the Arkansas River shiner offers direct competition with the Pecos bluntnose shiner.

Fish communities between Sumner Dam and Brantley Reservoir are monitored by the FWS in coordination with the BLM and Bureau of Reclamation. Monitoring indicates a general abundance of fish, especially in light of cooperative efforts to maintain more natural flows in the Pecos River.

The proposed action and alternatives would not impede potential habitat from becoming suitable habitat, and would not impede the further development of existing riparian-wetland habitat on public lands.

Conservation Measures: No new oil and gas leases will be sold within the 100-year floodplain of the Pecos River. The following surface use and occupancy restrictions were developed to protect streams, rivers, floodplains, and springs and seeps. No surface occupancy would be allowed within floodplains or within up to 200 meters of the outer edge of 100-year floodplains. No surface occupancy would be allowed within up to 200 meters of the source of a spring or seep, or within downstream riparian areas created by flows from the source or resulting from riparian area management. Produced water disposal pits on public lands would not be allowed on public land

west of the Pecos River, within 100-year floodplains or within 200 meters of drainages or springs. OHV designations for the Pecos River floodplain include a combination of closed to OHV use and limited to designated roads/trails.

Effect Determination: May Affect, Not Likely to Adversely Affect. The effects of the proposed action and alternative have adverse aspects that are discountable or insignificant.

**Interior Least Tern** *(Sterna antillarum athalassos)* - Federal Endangered

The interior least tern nests on shorelines and sandbars of streams, rivers, lakes, and man-made water impoundments. There are only three known nesting habitats in the Roswell Field Office (RFO) area. The primary areas are on the alkali flats on the east side of Unit 16 and around Bitter Lake on BLNWR. A secondary area is an alkali flat due north of the refuge on public lands on Allotment 64056. The third area is located on City of Roswell property at the old desalinization plant where terns once nested on the evaporation ponds behind the plant and have since abandoned. No other nesting terns have been found to date. BLNWR is considered essential to tern breeding habitat in the state.

Sporadic observations of least terns have been recorded elsewhere in the Pecos River valley. The tern may occur on public lands in Chaves County along the river because suitable nesting habitat is found on sites that are sandy and relatively free of vegetation (i.e., alkali flats). Other potential habitat sites are saline, alkaline, or gypsiferous playas that occasionally hold water. However, ephemeral playas do not support fish, the main staple for terns.

Specific surveys for nesting least terns have been conducted in potential habitat along the Pecos River and playas by the New Mexico Natural Heritage Program under a challenge cost share agreement with the BLM. Surveys were conducted at eight designated survey sites in the RFO area during the June/July 1997 season. A flyover was noted at the Overflow Wetlands Wildlife Habitat Area, and two nesting pairs were observed on Allotment 64056 north of the BLNWR (NMNHP 1997). No other nesting terns have been found to date.

Channelization, irrigation, and the construction of reservoirs and pools have contributed to the elimination of much of the tern nesting habitat. Unpredictable flow patterns below reservoirs can pose problems for nesting terns. Increased human activity on river sandbars threaten nesting terns, including the use of recreational vehicles on previously unreachable habitat during periods of drought.

The proposed action and alternatives would not impede potential habitat from becoming suitable habitat, and would not impede the further development of existing riparian-wetland habitat on public lands.

Conservation Measures: No new oil and gas leases will be sold within the 100-year floodplain of the Pecos River. Surface use and occupancy restrictions were developed in the Roswell RMP to protect streams, rivers, floodplains, and playas and alkali lakes. No surface occupancy would be allowed within floodplains or within up to 200 meters of the outer edge of 100-year floodplains. No surface occupancy would be allowed within up to 200 meters of playas and alkali lakes. OHV

designations for the Pecos River floodplain include a combination of closed to OHV use and limited to designated roads/trails.

Effect Determination: May Affect, Not Likely to Adversely Affect.

**Pecos (Puzzle) Sunflower** (*Helianthus paradoxus)* – Federal Endangered

The Pecos sunflower is found along alkaline seeps and cienegas of semi-desert grasslands and the short-grass plains (4,000-7,500 feet elevation). Plant populations are found both in water and immediately adjacent to water sources where the water table is near the surface. The New Mexico Energy, Minerals and Natural Resources Division and BLM staff have conducted surveys along the Pecos River through riparian studies and during routine field reconnaissance. The largest and most secure population is still found on BLNWR. The only known locations on public lands are two areas are located on the east side of the Pecos River.

Key threats to the Pecos sunflower include dewatering of riparian-wetland areas where this species is found, surface disturbing activities by oil and gas, rights-of-way, and excessive livestock grazing.

The proposed action and alternative would not impede potential habitat from becoming suitable habitat, and would not impede the further development of existing riparian-wetland habitat on public lands.

Conservation Measures: No new oil and gas leases will be sold within the 100-year floodplain of the Pecos River. The following surface use and occupancy restrictions were developed in the Roswell RMP to protect streams, rivers, floodplains, and springs and seeps. No surface occupancy would be allowed within floodplains or within up to 200 meters of the outer edge of 100-year floodplains. No surface occupancy would be allowed within up to 200 meters of the source of a spring or seep, or within downstream riparian areas created by flows from the source or resulting from riparian area management. Potential habitat occur within the Overflow Wetlands WHA. These wetlands are protected from surface disturbing activities and livestock grazing has been canceled on Allotment 65041. Livestock grazing on Allotment 64056 has been indefinitely deferred through the 1999 grazing authorization process. In addition, the 1999 livestock grazing authorizations for several riparian allotments included regulatory mechanisms to further protect potential habitat for this species. Site-specific evaluations would still be conducted on a case-by-case basis for all riparian areas for occurrence or monitoring when new populations are found.

Effect Determination: May Affect, Not Likely to Adversely Affect. The effects due to the proposed action and alternative have adverse aspects that are discountable or insignificant.

**9. Visual Resources Management**

## Affected Environment

The entire allotment is in a Class III area for visual resources management. In a Class III area,

contrasts to the basic elements caused by a management activity may be evident and begin to attract attention in the landscape. The changes, however, should remain subordinate to the existing landscape.

### Environmental Impacts

The basic elements of the landscape would not change within the allotment under any management alternative. Potential impacts to visual resources would be analyzed and mitigated as allotment management activities are proposed in the future.

## 10. Recreation

### Affected Environment

Few roads provide access to public, private, and state lands within the allotment, legal public access is limited. Access to most of the private and state lands is currently controlled by fences and locked gates. The BLM has designated off-highway vehicle use on public lands in the area as limited to existing roads and trails.

General sightseeing, wildlife viewing and photography are nonconsumptive recreational activities that may occur. Rock collectors find various minerals unique to the area, such as Pecos diamonds.

### Environmental Impacts

Under the Proposed Action, Alternative B and Alternative D, there would be no direct negative impacts to recreational activities on public lands. There could be potential conflicts between recreationists and ranching activities, depending on hunting seasons and livestock use in a given pasture. Vandals could damage range improvements.

Under Alternatives B and D, game and non-game wildlife species could realize long-term benefits through the improvement of habitat. It is expected that hunter success and wildlife viewing opportunities would be enhanced.

Under Alternative C, no conflicts between ranching activities and recreational use would occur on public lands. Success of hunts and nonconsumptive opportunities would remain the same or slightly improve. Vandalism could still occur to range improvements.

## 11. Cave and Karst

### Affected Environment

This allotment is located within a designated area of medium Cave or Karst Potential. A complete significant cave or karst inventory has not been completed for the public lands located in this grazing allotment. Presently, no known significant caves or karst features have been identified within this allotment.

Environmental Impacts

Since no caves or major karst features have been identified on this grazing allotment, grazing would not affect these resources. If a significant cave or karst feature were discovered on public lands within this allotment, that cave or feature may be fenced to exclude livestock and off-highway vehicle use.

**12. Air Quality**

Affected Environment

The allotment is in a Class II area for the Prevention of Significant Deterioration of air quality as defined by the federal Clean Air Act. Class II areas allow a moderate amount of air quality degradation.

Air quality in the region is generally good, with winds averaging 10-16 miles per hour depending on the season. Peak velocities reach more than 50 miles per hour in the spring. These conditions rapidly disperse air pollutants in the region.

Environmental Impacts

Dust levels resulting from allotment management activities would be slightly higher under the Proposed Action or Alternative B or D than Alternative C. The cumulative impact on air quality from the allotment would be negligible compared to all pollution sources in the region.

## IV. CUMULATIVE IMPACTS

A cumulative impact is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

The analysis of cumulative impacts is driven by major resource issues. The action considered in this environmental assessment (EA) is the authorization of livestock grazing on Allotment 65069.

The incremental impact of issuing a grazing permit on these resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments along Commanche Draw; oil and gas activities on the uplands; rights-of way crossing the draw; and recreation use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state and private lands.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed

today. Oil and gas activities began in the early part of the 20th century. These activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

The Proposed Action, Alternatives B or D would not add incrementally to the cumulative impacts to threatened and endangered species, or to water quality. The conclusion that impacts to these resources from grazing authorization would not be significant are discussed in detail in Section III of the EA. Incremental impacts to riparian/wetland habitat from livestock grazing are possible, however. These impacts are also discussed in Section III of the EA.

If the No-Grazing Alternative were chosen, some adverse cumulative impacts to riparian/wetland habitat would be eliminated, but others would occur. Grazing would no longer be available as a vegetation management tool, and BLM lands within the allotment would be less intensively managed.

## V. MITIGATION MEASURES

Vegetation monitoring studies would continue regardless of which alternative is selected. Should future monitoring data indicate adverse impacts to vegetation or other resources within the allotment, changes in livestock management would be made. Included but not limited to the actions that might be taken to mitigate these adverse impacts are changes in livestock numbers, timing in the use of pastures, additional range improvements, or modification to existing range improvements. Ultimately, the actual mitigation measure used depends on the cause of the adverse impact and the mitigation would be tailored to impact.

Mitigation measures applied to livestock management would be developed in consultation with the grazing permittee and other interested parties.

## VI. RESIDUAL IMPACTS

Residual impacts are direct, indirect, or cumulative impacts that would remain after applying the mitigation measures. Residual impacts following authorization of livestock grazing would be insignificant if the mitigation measures are properly applied.

## VII. Conformance with New Mexico Standards and Guidelines

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these Standards.

Field assessment worksheets and other available data that evaluate the local indicators, were completed for this allotment. The results indicate Allotment No. 65069 meets the standards developed for New Mexico. This document may be accessed through the BLM Roswell Field Office's Web page at http://www.nm.blm.gov/www/rfo/index.htm.

Based on the assessments and determination the Public Lands within the Calumet Ranch Allotment #65069 meet the Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) the Riparian Standard.

## VIII. Socio-Economic Factors

The proposed action, Alternative B or Alternative D as outlined in this document are not anticipated to alter the socio-economic conditions for either the permittee or Chaves County. Should the no livestock grazing alternative be adopted, economic impacts would occur.

Under the no livestock grazing alternative, it would be the responsibility of the permittee to prevent livestock from grazing on the public lands. To accomplish this the permittee would most likely have to construct fences to exclude the public lands. Thirty to thirty-five miles of new fence would be needed at a cost of approximately $130,000 to $150,000. BLM would also have to provide compensation to the permittee for his interest in authorized range improvements due to the exclusion of livestock grazing. These costs could be reduced or mitigated by land exchanges with either the state or the permittee to block up the public lands.

## IX. BLM TEAM MEMBERS

Dan Baggao, John Spain, Irene Gonzales-Salas, Jerry Dutchover, Rand French, Pat Flannery, Michael McGee, Tim Kreager and Howard Parman.

## X. PERSONS AND AGENCIES CONSULTED

Chaves County Public Land Use Advisory Committee
B.G. Hill - Permittee
New Mexico Department of Game and Fish
New Mexico Energy, Minerals, and Natural Resources Department
- Forestry and Resource Conservation Division
New Mexico Environment Department - Surface Water Quality Bureau
New Mexico State Land Office
U.S. Fish and Wildlife Service - Ecological Services
U.S. Fish and Wildlife Service - Fishery Resources Office

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